



Baseline Report of Small Holder Farmers Bangladesh



Strengthening Adaptive Farming in Bangladesh, India and Nepal



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For Small Farmers Future



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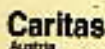
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FOREWORD

This publication presents the analysis of household level data collected through the participatory tools & techniques as well as by household level survey from 30 villages 10 villages in each of the three districts of Bangladesh (Naogaon, Natore and Rajshahi) as part of the EC supported Program on **"Strengthening Adaptive**

Farming in Bangladesh, India & Nepal (SAF-BIN)".

The report has attempted to represent the situation of Food Production, Distribution and Consumption System (FPDCS) of Small Holder Farmers (SHF) with respect to climate change adaptation, mitigation and around nutritional security as part of Caritas Bangladesh's initiative on 'Building resilience to climate change through strengthening adaptive small scale farming systems in Rain-fed areas in Bangladesh, India and Nepal'.

To understand the situation the data was collected through a well-designed and pre-tested standard schedule. It was administered for both the SHF members as well as control members.

For analysis purpose both MS-Excel 2007 and SPSS21 was used where various charts and tables were prepared using the facilities like pivot tables, crosstab and other logical as well as mathematical functions.

The study was conducted to understand the basic socio-demographic and livelihood status of small and marginal farmers. Further, due focus was given to FPDCS of SHF in climate change context. From each district 120 HHs were taken into consideration for understanding on various issues and challenges in FPDCS to assess the level of vulnerability and its consequences on small and marginal farmers. Of the total 360 HHs 90HHs were from control groups.

Major findings of the Baseline survey are:

- Around 50.37% of SHF & 43.33% of control HHs are very poor.
- Among the indigenous HHs 27.1% are very poor and 45.8% are poor whereas among the Bangali HHs these are 4.5% and 51.4% respectively.
- Food security related problem is more severe in Naogaon. This calls for focused food production enhancement related interventions in Naogaon to avert any kind of climate change or related hazard.
- HHs who do not have cultivable land, are more vulnerable and the presence of households with round the year food available are very limited.
- The analysis of food security status on the basis of land ownership and social category shows that among the indigenous people, no household has round the year food available. This indicates, food security enhancement related interventions must give priority to the indigenous households.

- Very poor and poor families are more vulnerable towards health hazards and there are more chances that these households will face worse situation if the food production, access and distribution is affected by any means.
- Open defecation is more in Naogaon (more than 30%). Highest percentage of Rajshahi households have on pit sanitation facility followed by Naogaon and closely followed by Natore whereas off pit sanitation facility is more in Naogaon. Other modes of sanitation are more prevalent in Natore followed by Rajshahi. The overall scenario shows that more people of Naogaon are prone to infection as compared to people of other two districts.
- Among the agricultural equipments, 27.8% of Naogaon households have country plough followed by 14.4% of Rajshahi and 4.4% of Natore HHs. Manual weeder is available at 96.7% households of Natore followed by 62.2% of Rajshahi and 50% of Naogaon HHs. Presence of improved plough is very low and is limited to only 6.7% of Naogaon HHs.
- Within the SHF group, the percentage of households with no cultivable land and land holding up to 0.25 hectare is more (12%) in Naogaon followed by Rajshahi and Natore.
- Analysis of landholding pattern across various social categories shows that within the SHF group, more numbers of indigenous households (20%) are without any cultivable land.
- Within the SHF group, irrigated land is more in case of Rajshahi followed by Naogaon. There is no irrigated land in Natore. However percentage of irrigated land is less than 30% in both the districts.
- The analysis of households engaged in different livelihood sectors shows that highest percentage of households of both SHF and control group of all the three districts are engaged in subsistence farming. Households with both unskilled and skilled wage labour are more in Naogaon.
- For the SHF households, agriculture is the main source of income for all the three districts, where Naogaon leads, closely followed by Rajshahi and Natore.
- The crop wise analysis of SHF household level income shows that paddy is the major contributor for majority of HHs.
- Investment in agriculture is more in Naogaon followed by Natore and Rajshahi whereas investment in pesticide is more in Naogaon followed by Rajshahi and Natore. Investment in seed is more in Rajshahi.
- The highest investment per households in fertilizers is in Natore followed by Rajshahi and Naogaon whereas Naogaon invests more in pesticide as compared to other two districts. Investment under seed and manure/bio-fertilizers is in Rajshahi whereas other investments are more in Natore. In total Rajshahi invests more in agriculture than the other two districts.

- For the SHF households, food is the major (50%) expenditure of all the three districts followed by clothes (13%) & savings (13%), education (10%), health & sanitation (10%) and others (4%).
- The households across all the three districts access multiple sources for loan/debt. Of all the three districts, people of Natore have lesser options than the other two districts. While Naogaon people have access to all the 10 listed sources, people of Rajshahi access to 9 out of 10 sources.
- For both SHF as well as control households, average production of paddy is more in Naogaon followed by Natore and Rajshahi.
- As far as food consumption as the percentage of production is concerned, highest percentage of paddy is consumed in Rajshahi followed by Natore and Naogaon.
- None of the households engaged in wage labour (both skilled & unskilled) and organized farming have food available for round the year.
- More cases of malnutrition, anemia and stunting like problems in women and children are found in indigenous and also in very poor households as well as households with skilled wage labour as primary occupation.

I strongly believe that this publication will help to understand the basic socio demographic and livelihood status of small and marginal farmers as well as FPDCS of SHF in climate change context. My heart-felt thanks to those who have contributed their time and energy for this important baseline survey.

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LIST OF ABBREVIATIONS

- GI : Galvanized Iron
- HHs : Households
- LPG : Liquefied Petroleum Gas
- MFI : Micro-finance Institutions
- OBC : Other backward caste
- RCC : Reinforced cement concrete
- RoI : Return on Investment
- SC : Schedule Caste
- SHF : Small Holder farmer
- SHG : Self Help Group
- ST : Schedule Tribe

CHAPTER-I

1.1 INTRODUCTION& BACKGROUND

This report presents the analysis of household level data collected through the Participatory Rural Appraisal (PRA) tools & techniques as well as by household level survey from 30 villages (10 villages in each of the 3 districts of Bangladesh (Naogaon, Natore and Rajshahi) as part of the EC supported Program on **"Strengthening Adaptive Farming in Bangladesh, India & Nepal (SAF-BIN)"**

The report has attempted to represent the situation of food production, distribution and consumption system of Small Holder Farmers (SHF- FPDCS) with respect to climate change adaptations, mitigation and around nutritional security as a part of CARITAS Bangladesh initiative on 'Building resilience to climate change through strengthening adaptive small scale farming systems in rain-fed areas in Bangladesh, India and Nepal'.

1.2 APPROACH &METHODOLOGY

1.2.1. DATA COLLECTION & ANALYSIS

To understand the situation the data was collected through a well designed and pre-tested standard schedule. It was administered for both the SHF members as well as control members.

For the purpose of data analysis, an extensive database was designed in MS-Excel. To avoid data entry related errors, each and every cell was validated with the list of codes. The data was entered by the respective field officers at district levels and was finally consolidated to get the country level merged database. Further, the database was cleaned to avoid basic errors and then properly coded and decoded for better analysis.

For analysis purpose both MS-Excel 2007 and SPSS21 was used where various charts and tables were prepared using the facilities like pivot tables, crosstab and other logical as well as mathematical functions.

1.3 OBJECTIVES OF THE STUDY

The present study was conducted in three districts of Bangladesh (Naogaon, Natore and Rajshahi) to understand the basic socio-demographic and livelihood status of small and marginal farmers. Further, due focus was given to understand the food production, consumption, preservation and distribution in climate change context and its compounding impact on the small and marginal farmers.

CHAPTER-II

SOCIO- DEMOGRAPHIC INFORMATION

2.1 SAMPLE COVERAGE

For the purpose of understanding the situation in total 360 HHs were taken into consideration. From each district 120 HHs were taken into consideration for understanding on various issues and challenges in food production, consumption, preservation and distribution to assess the level of vulnerability and its consequences on small and marginal farmers. Of the total the 360 HHs covered under the survey program, 90HHs were from control groups.

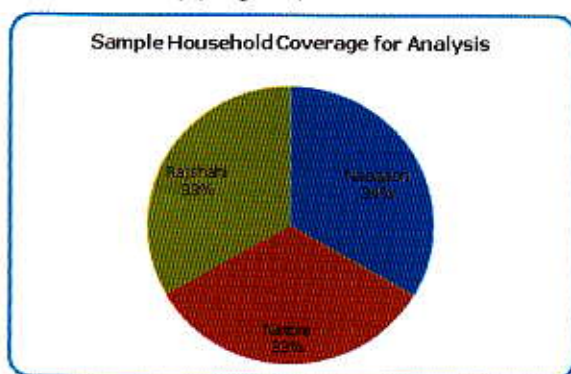


Figure 1: Households coverage for analysis

The following table shows the distribution of sampled households surveyed. From each village 12 households were surveyed of which 9 were from the SHF and 3 were from control.

Table 1: Village wise households covered				
Districts	VillageName	No. of Sample Household	Control HHs	Total Households
Naogaon	Bistopur	9	3	12
	Chakmuli	9	3	12
	Chokatram	9	3	12
	Dangapara	9	3	12
	Gayerpur	9	3	12
	Gopinagor	9	3	12
	Krishnoballob	9	3	12
	Mahimapur	9	3	12
	Saldangga	9	3	12
	Sambati	9	3	12
	Naogaon Total	90	30	120
Natore	Balia	9	3	12
	Bhobanipur	9	3	12

Table 1: Village wise households covered

	Kachutia	9	3	12
	Kalikapur	9	3	12
	Katashcol	9	3	12
	Koidima	9	3	12
	Kumrul	9	3	12
	Naupara	9	3	12
	Ramagari	9	3	12
	Srikhondi	9	3	12
	Natore Total	90	30	120
Rajshahi	Bajitpur	9	3	12
	Batasmolla	9	3	12
	Dhormohata	9	3	12
	Ghepara	9	3	12
	Hujripara	9	3	12
	Kornoher	9	3	12
	Radhanogor	9	3	12
	Sorishakuri	9	3	12
	Sormongla	9	3	12
	Tetulia	9	3	12
	Rajshahi Total	90	30	120
Total		270	90	360

Source: Household Primary Survey 2012-13

The respondents included 93% males and 7% females. Of the total respondents, 93% were married, 5% unmarried and 3% widow. The following chart gives the picture on coverage of sample on the basis of their gender across various marital statuses.

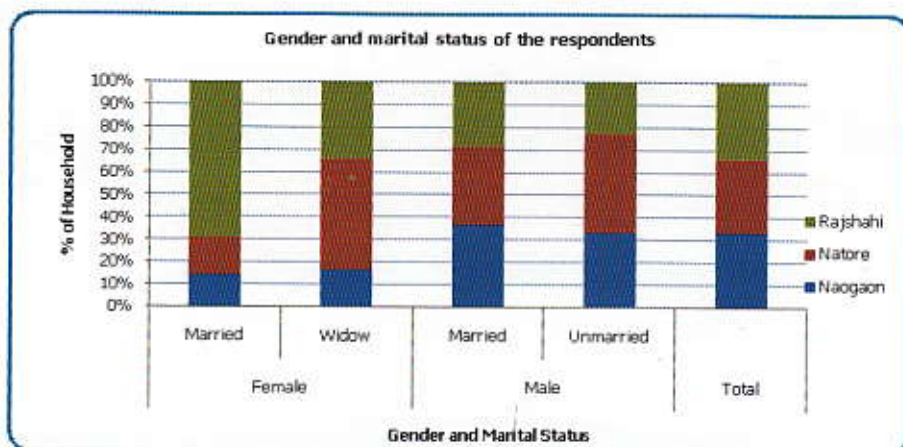


Figure 2: Gender and marital status of respondents

The following table indicates that the coverage of respondents under both SHF and control were dominated by married persons from Ethnic.

Table 2: Composition of Respondent on the basis of Marital Status and Social Category				
	Caste	Married	Unmarried	Widow
SHF Member	Ethnic	95.8	4.2	0.0
	Bangali	91.9	5.9	2.3
	SHF Member Total	92.6	5.6	1.9
Control	Ethnic	100.0	0.0	0.0
	Bangali	94.7	3.9	1.3
	Control Total	95.6	3.3	1.1
Total		93.3	5.0	1.7
Source: Household Primary Survey 2012-13				

2.2 ECONOMIC STATUS OF HOUSEHOLD

Following to the well being ranking done in the villages, the households were grouped into four different economic categories like very poor, poor, manageable and well off. This type of categorization is the primary indicator of the household level food security which governs the buying and investment capacity of each individual household.

Under SHF category, Rajshahi district has more number of very poor, followed by Nagaon whereas there is no very poor HH in Natore. Rajshahi has more numbers of poor families followed by other two districts. Natore leads in HH categorized under manageable followed by Naogaon and Rajshahi.

Similarly, under control category, more HH under very poor were from Naogaon followed by Rajshahi whereas under poor category, more HHs are from Natore followed by Rajshahi and Naogaon. More manageable HHs are from Rajshahi followed by other two districts whereas more well off HHs are in Natore.

The overall situation shows that around 50.37% of SHF & 43.33% of control HHs are poor whereas 38.52% of SHF HHs & 23.33% of control HHs are under manageable category. Households under very poor and well off category are more in control than SHF group.

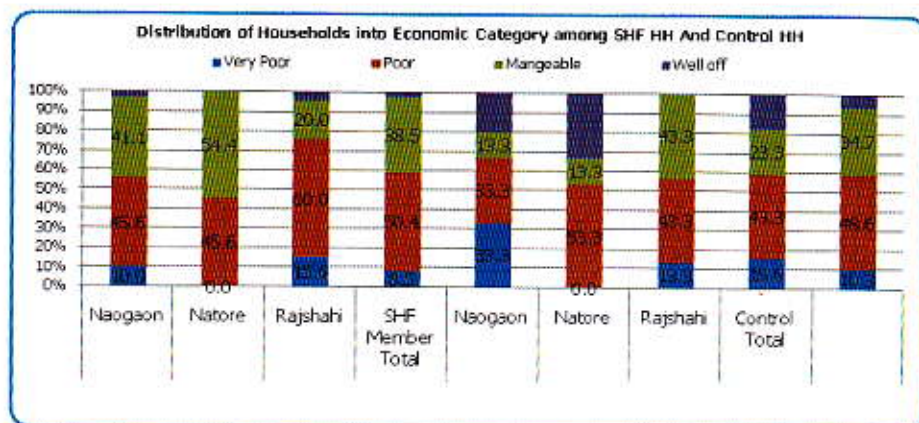


Figure 3: Distribution of Households under different Economic Category

Under different social categories, it has been found that among the SHF HHs, under Ethnic category 27.1% are very poor and 45.8% are poor whereas under Bangali category these are 4.5% and 51.4% respectively. The presence of well off is very low (2.1% of Ethnic and 2.7% of Bangalis).

In case of control HHs, more numbers of 'very poor' HHs are under Ethnic than the Bangalis and more numbers of 'Poor' HHs are under Bangalis than the Ethnic. Percentage of well off HHs is more among Bangalis than the Ethnic.

In total, under both the SHF and control HHs, around 58.9% are either very poor or poor.

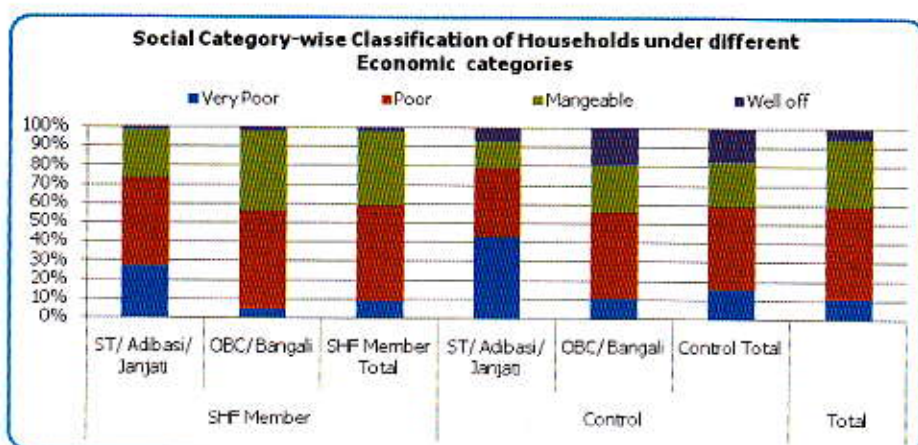


Figure 4: Social Category-wise Classification of Household under different Economic Category

Among both SHF and control households, more female headed households are under very poor and poor categories (around 85%) whereas around 55% male headed households of both the category are either under very poor or poor. This shows that female headed households are more vulnerable as compared to the male headed.

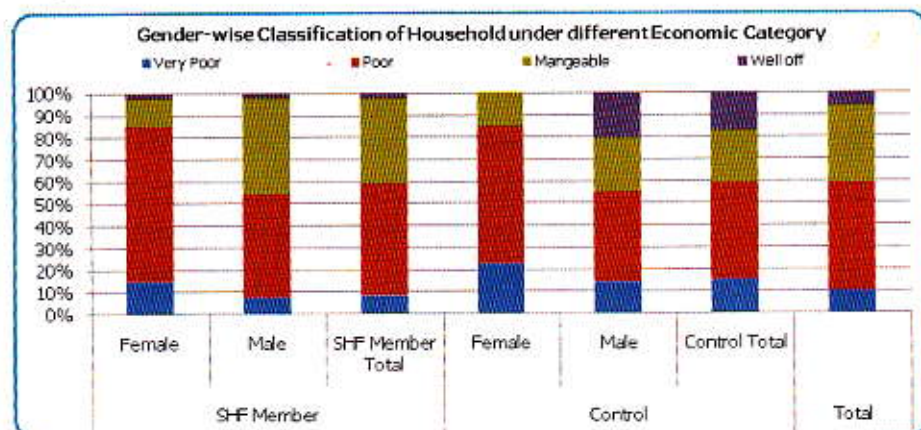


Figure 5: Gender-wise Classification of Household under different Economic Category

From the above tables it is clear that both Ethnic and female headed households are most vulnerable segments and hence these should be in target for any initiatives to improve the climate resilient livelihood status at household level.

2.3 SOCIAL CATEGORY

Concentration of Ethnic is more in Naogaon followed by Rajshahi whereas there is no Ethnic house in Natore. Bangali concentration is high as compared to Ethnic in all the three districts. In overall, under both SHF and control HHs, more belong to Bangali category.

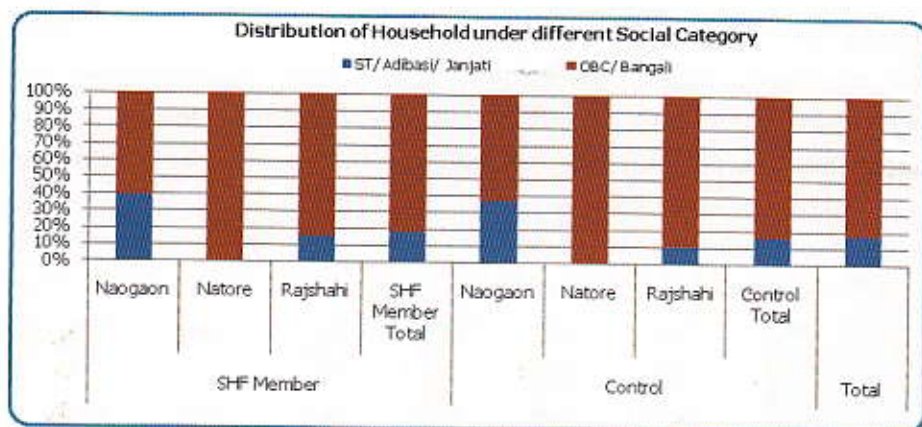


Figure 6: District wise distribution of Households under different Social Categories

2.4 MARITAL STATUS

Under both SHF and control categories, more households are lead by married persons. Under SHF HHs, more households of Rajshahi are lead by married persons followed by Naogaon and Natore whereas under control group, more households of Natore are lead by married persons followed by Naogaon and Rajshahi. Houses lead by unmarried and widows are very minimal in both the categories.

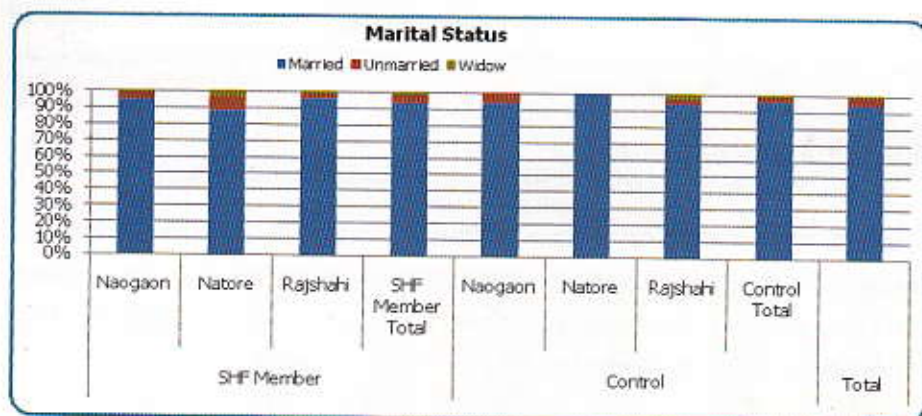


Figure 7: Marital Status of Heads of Household

2.5 LITERACY

The literacy composition analysis shows that under both SHF and control category, Naogaon has more illiterate and 'up to 9thpass' heads followed by Rajshahi and Natore whereas Natore has more household heads with 10thpass. Household heads with 12thpass and other qualification are more in Rajshahi than the rest two districts.

The overall scenario shows that educationally, Naogaon is backward as compared to other two districts and Rajshahi is a uniform mix of heads with different educational backgrounds. This indicates that more concentrated efforts are required in Naogaon for any kind of technology transfer and skills requiring basic educational background.

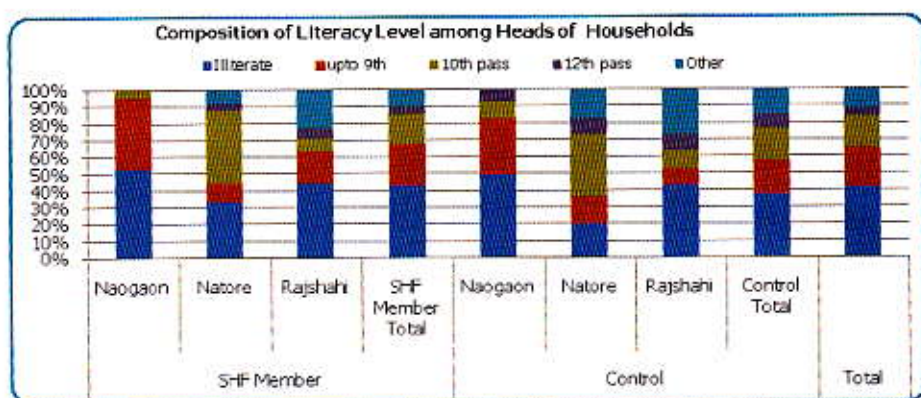


Figure 8: Composition of Literacy among Heads of Households

The gender wise literacy composition analysis shows that under both SHF and control HHs, more illiterates are among the females than the males whereas more SHF females are with 'up to 9thpass' qualification than the females of control group. Under 10th pass and 12thpass category, males are ahead of females. The overall scenario shows that around 67.8% of the total respondents are either illiterates or 'up to 9thpass'

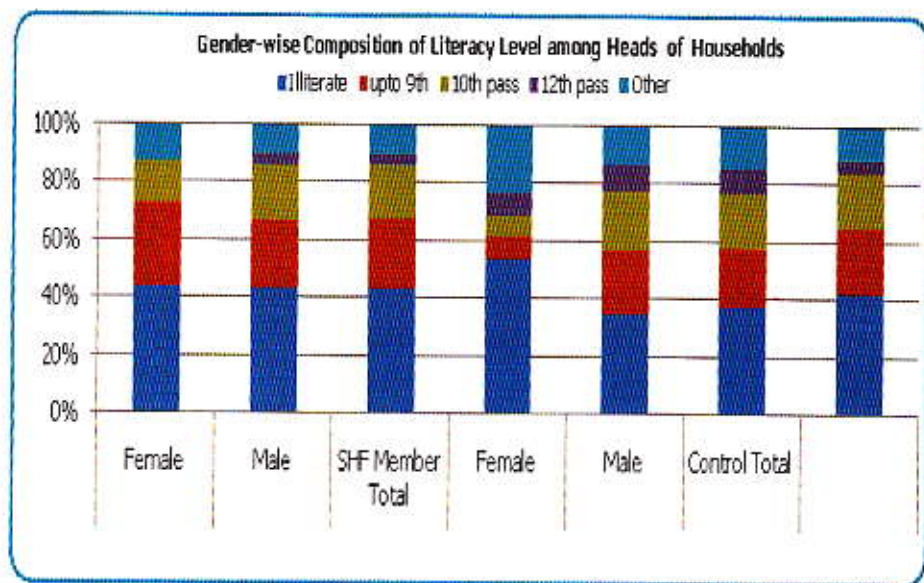


Figure 9: Gender-wise Composition of Literacy Level among Heads of Households

2.6 DEMOGRAPHY

2.6.1 SEX RATIO

Under SHF category, Naogaon has better sex ratio in '> 18' categories as compared to other two districts whereas Natore has better sex ratio in '< 18' categories. In general, sex ratio is better in Natore than the other two districts. Similarly, under control category, Rajshahi has better sex ratio in '>18' category than the other two districts whereas in '<18' category, Natore has a better position. In total, SHF HHs show better sex ratio in all the three categories.

Under overall sex ratio Natore leads. The following graph shows that there is every chance that the sex ratio of Natore will improve in coming days whereas it will worsen in other two districts. The overall scenario shows that in all the three categories, the sex ratio is poor since the number of females per 1000 males is quite low.

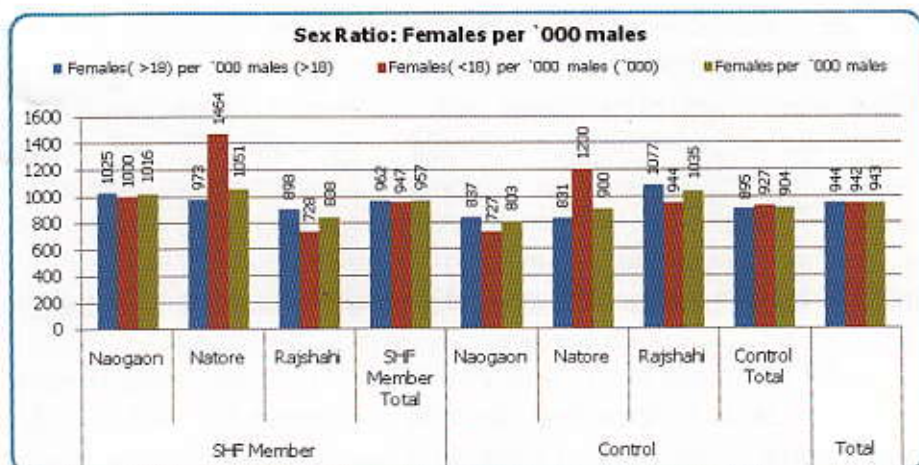


Figure 10: Sex Ratio: Females per '000 males

2.6.2 FAMILY SIZE

For SHF HHs, the average family size is highest in Rajshahi (4.7 say 5) for SHF households and for control HHs it is 5.1 (say 6). In total, the average family size is more for control HHs than the SHF HHs.

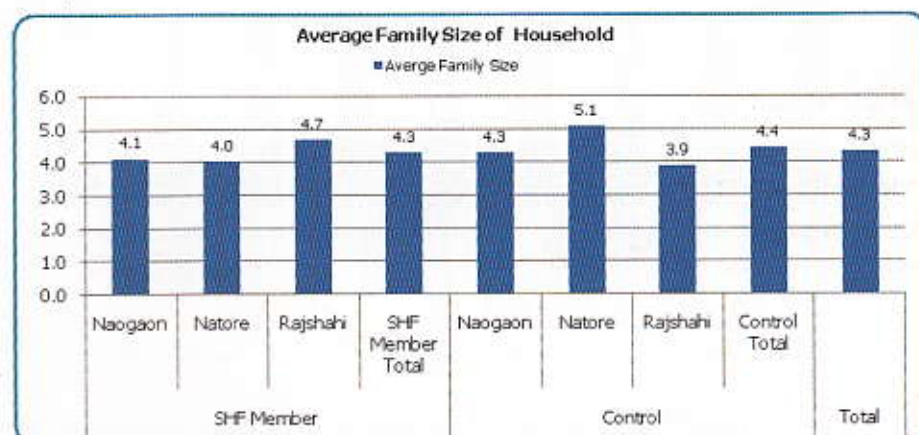


Figure 11: Average Family Size of Household

2.7 FOOD SECURITY OF HOUSEHOLD

Under SHF category, HHs with year round food available are more in Rajshahi followed by Naogaon. None of the Natore HH has year round food security. Households with 9-12 months food availability

are more in Natore followed by Rajshahi and Naogaon. Households with 6-9 months food availability are more in Rajshahi followed by Naogaon and Natore whereas more households with 3-6 months & 0-3 month food available are in Naogaon followed by Rajshahi and Natore.

Further, under control group, Rajshahi has more households with year round food security followed by Naogaon and Natore whereas households with food security for 9-12 months are more in Natore followed by Rajshahi and Naogaon. Similarly, households with food security for 6-9 months, 3-6 months and 0-3 months are more in Naogaon than the other two districts.

The overall situation at district level shows that food security related problem is more severe in Naogaon than the other two district (for both SHF and control groups). This calls for focused food production enhancement related interventions in Naogaon to avert any kind of climate change or related hazard. It is also clear that more households under control group are in better position than the SHF HHs.

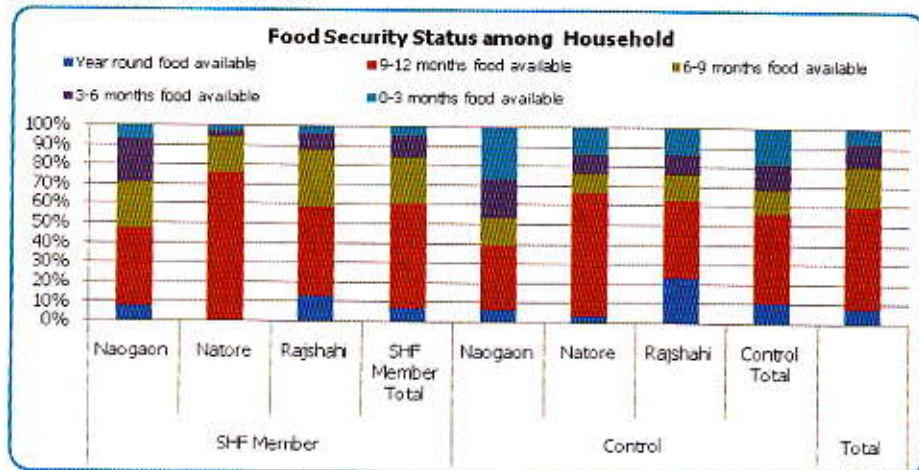


Figure 12: Food Security Status of Households

The analysis of food security status on the basis of land ownership and social category shows that among the Ethnic, no household has round the year food available whereas 9-12 months food is available for the HHs having 0.51 to 1 ha land holding. Among OBCs, percentages of households with round the year food security are almost equal (though slightly higher in case of households with 0.26 to 0.5 ha) for all categories of landholdings. In Bangali category, also the households without cultivable lands do not have round the year food available. It is clear that household in both the social categories, which do not have cultivable land, are more vulnerable and the presence of households with round the year food available are very limited and restricted to Bangali category. This indicates, food security enhancement related interventions must give priority to the Ethnic households.

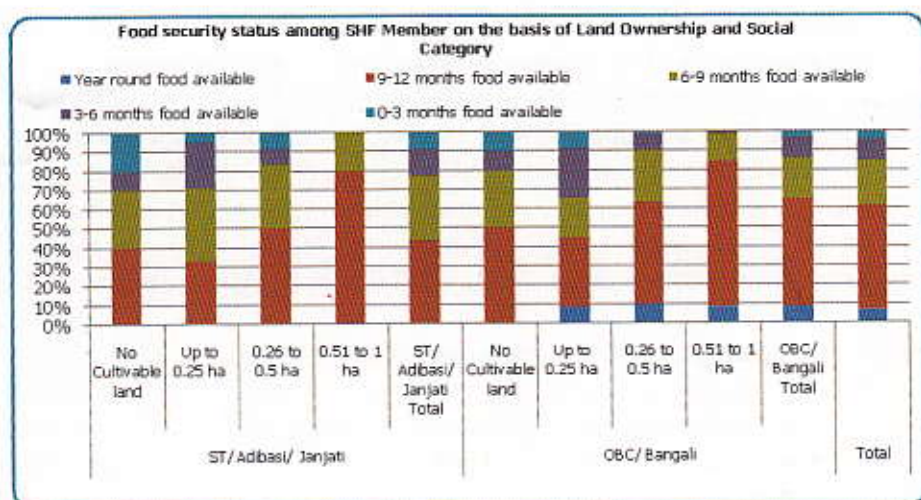


Figure 13: Food security status among SHF Members on the basis of land ownership and social category

Analysis of control households shows that none of the landless households under both the social categories have year round food security. The overall situation of the households under different land holding categories shows that Bangali households are in better condition than the Ethnic HHs.

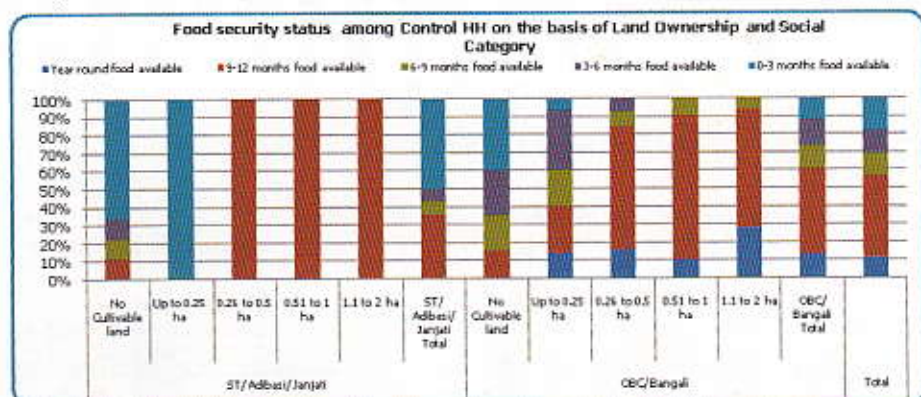


Figure 14: Food security status among Control HH on the basis of land ownership and social category

The analysis of food security status of SHF households with different occupation shows that except 7.4% of the households with subsistence farming, none have round the year food security.

Interestingly, none of the households with organized farming have year round food available. 100% households doing organized farming and services, 50% households with business, 53.5% of subsistence farmers, 62.5% skilled wage labours have food available for 9-12 months. Households with 6-9 months food available are more among households with business as occupation followed by those are engaged in skilled wage labour and subsistence farming. In case of control, households with year round food security are more in among households doing service & business followed by substance farmers. All the HHs engaged in organized farming have food security for 9-12 months followed by HHs doing subsistence farming, business and service. All the HHs doing wage labour have food security for 0-3 months only. The overall situation also shows that more percentage of control HHs have better food security status than the SHF HHs. Further, it also indicates that initiatives should be taken up to improve the food security levels for the households with other occupation, unskilled/agricultural and skilled labours.

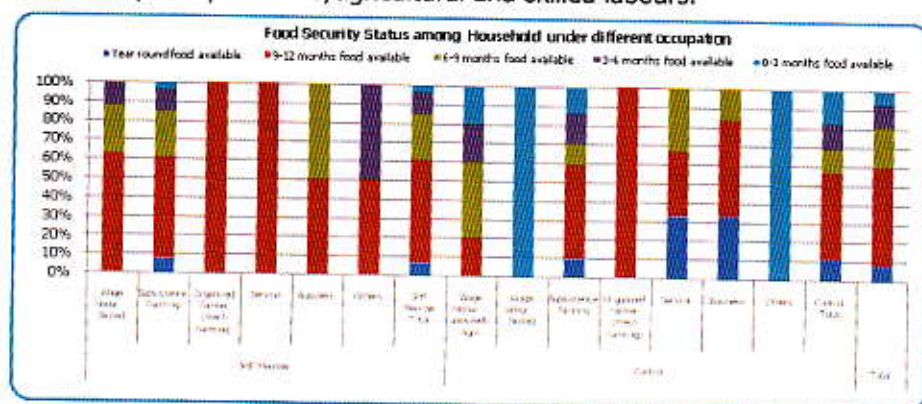


Figure 15: Food Security Status among Household under different Economic Category

2.8 NUTRITIONAL STATUS OF THE FAMILY

The analysis of nutritional status of the SHF families shows that HHs with no malnutrition are more in Natore followed by Rajshahi and Naogaon. However the percentage of such households is very less in all the three districts. Households with 'under nutrition and anaemia only in women' are more in Natore than the other two districts. Similarly, families with child malnutrition/stunting are more in Naogaon followed by Rajshahi. None of the families of Natore have such problems. Further, 4.2% households of Naogaon have both under nutrition and anemia among women as well as child malnutrition/stunting.

In case of control HHs, families with 'no malnutrition' are more in Natore than the other two districts. Households with 'under nutrition and anaemia only in women' are more in Rajshahi followed by Natore

and Naogaon whereas families with 'child malnutrition/ stunting' are more in Naogaon followed by Rajshahi. The overall scenario shows that more percentage of control HHs are not having any malnutrition related problems than the SHF HHs.

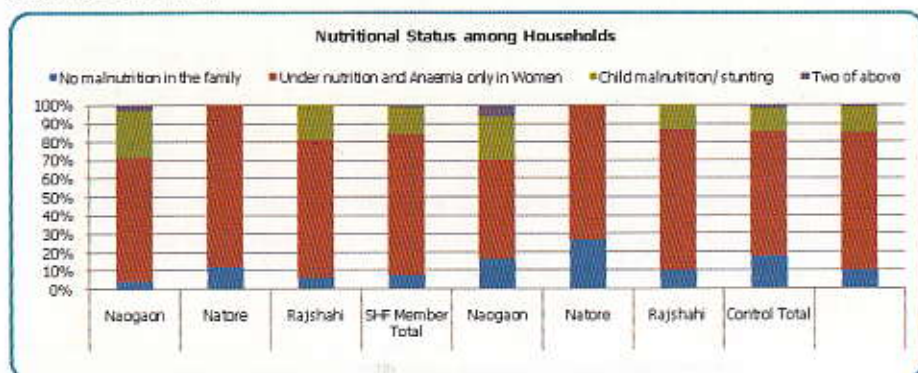


Figure 16: Nutritional Status among Households

The analysis of social category wise nutritional security shows that among SHF HHs, families with no malnutrition are more in OBCs than the Ethnic. Households with 'under nutrition and anemia only in women' are more in OBC than in Adivasis. However HHs with 'child nutrition/ stunting' are more among Ethnic than the OBCs.

Under control HHs, HHs with 'no malnutrition' and 'under nutrition and anemia only in women' in the family is more in OBC than the Ethnic. Overall situation says that control households are in better condition than the SHF households.

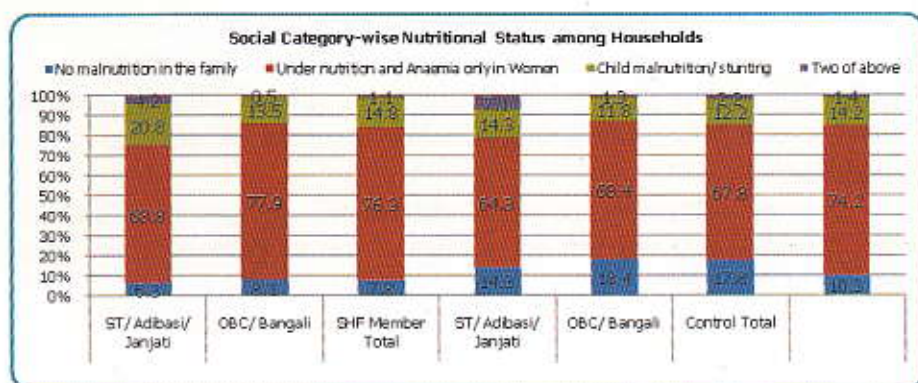


Figure 17: Social Category-wise Nutritional Status among Households

The analysis of nutritional status of among different social categories shows that among the SHF households, more numbers of HHs with no malnutrition belong to manageable and well off categories. Families with 'under nutrition and anaemia only in women' are more in poor followed by manageable category. Cases of child malnutrition/stunting are more among very poor families. Similarly, under control group, households with no malnutrition are more in well off category followed by manageable and poor. Cases of 'under nutrition and anaemia only in women' are more in very poor households followed by poor and manageable

In total it is clearly evident that very poor and poor families are more vulnerable towards health hazards and there are more chances that these households will face worse situation if the food production, access and distribution is affected by any means.

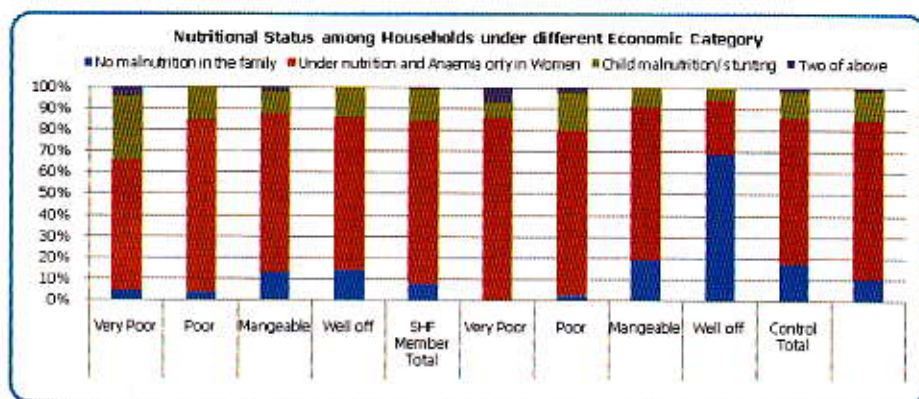


Figure 18: Nutritional Status among Households under different Economic Category

The analysis of nutritional status among households with different occupation shows that all families engaged in organized farming, service and business are having 'under nutrition and anaemia only in women' related problems. Condition of families of same categories is better in case of control households.

Child malnutrition/stunting are more in households engaged in skilled wage labor. Overall saying malnutrition statuses of control households are better than that of the SHFs.

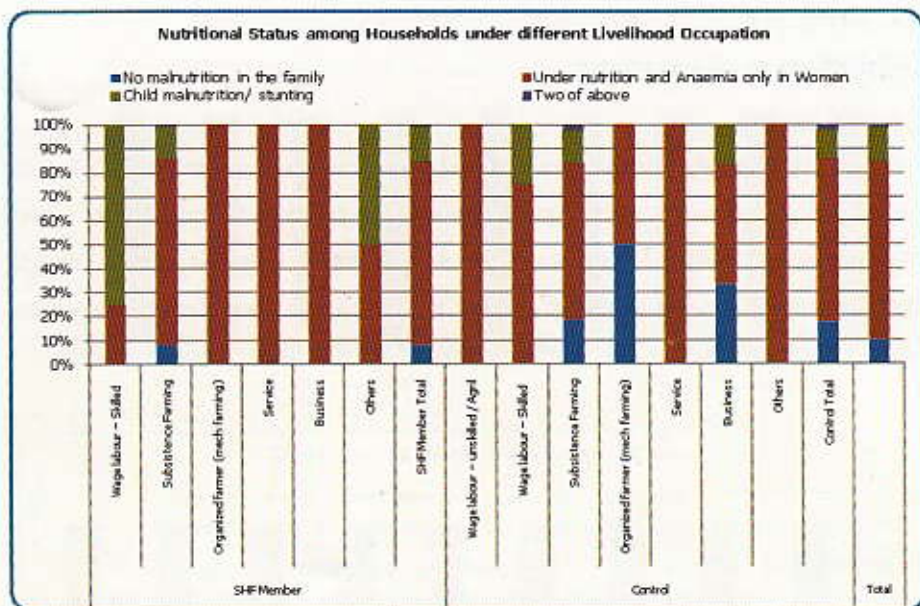


Figure 19: Nutritional Status among Households under different Economic Category

CHAPTER III

HOUSEHOLD FACILITIES

3.1 HOUSING

Mud and clay houses are the more in Naogaon and Rajshahi in both SHF and control groups whereas brick or stone houses are more in Natore. None of the SHF houses of Natore is of mixed (brick and mud) whereas under control group around 3.3% houses are of that type. Overall speaking, there is not much difference in wall types of the houses of both SHF and control groups.

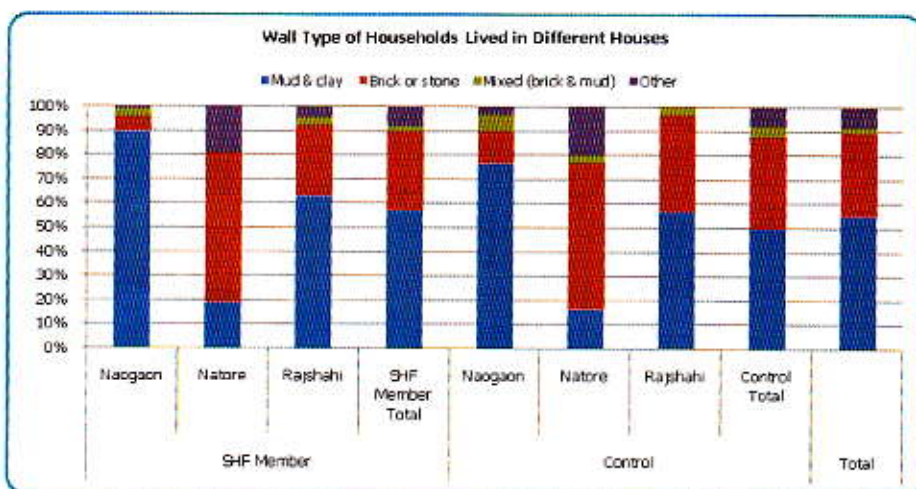


Figure 20: Wall Type of Households Lived in Different Houses

Similarly, as far as roof types are concerned, GI sheets/ asbestos is the dominant one for all the districts except Naogaon. Presence of RCC roof is quite low in all the three districts and in both SHF and control groups.

The overall situation indicates that the houses of Naogaon are more vulnerable to climate hazards than the houses of other two districts.

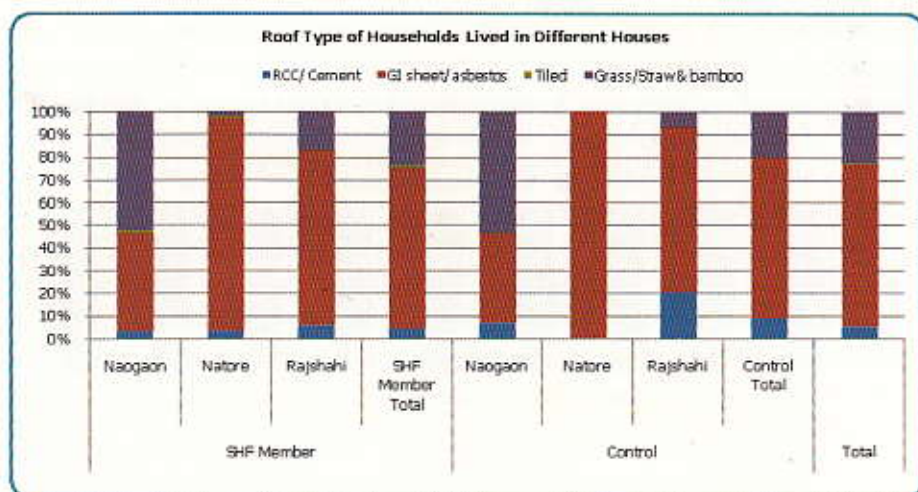


Figure 21: Roof Type of Households Lived in Different Houses

In case of SHF group, houses with mud & clay floor are more in Naogaon followed by Natore and Rajshahi. Houses with concrete/marble floors are more in Rajshahi as compared to other two districts which may be attributed to the better economic condition at individual household levels. Simultaneously, in case of control group, houses with mud or clay floor are more in Naogaon followed by Rajshahi and Natore. Presence of concrete/marble floor is more in Rajshahi followed by Natore and very minimal in Naogaon.

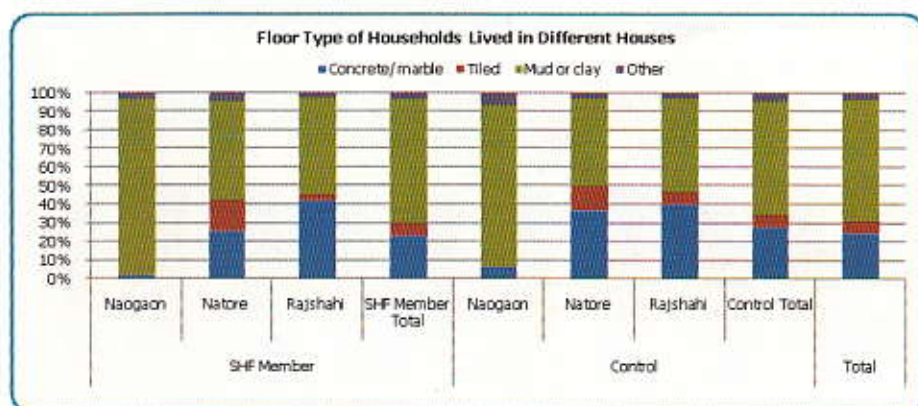


Figure 22: Floor Type of Households Lived in Different Houses

It is clear from the following graph that houses of all the three districts are predominantly single storied. Double storied houses are more in Naogaon whereas none of the houses of Natore are double- storied.

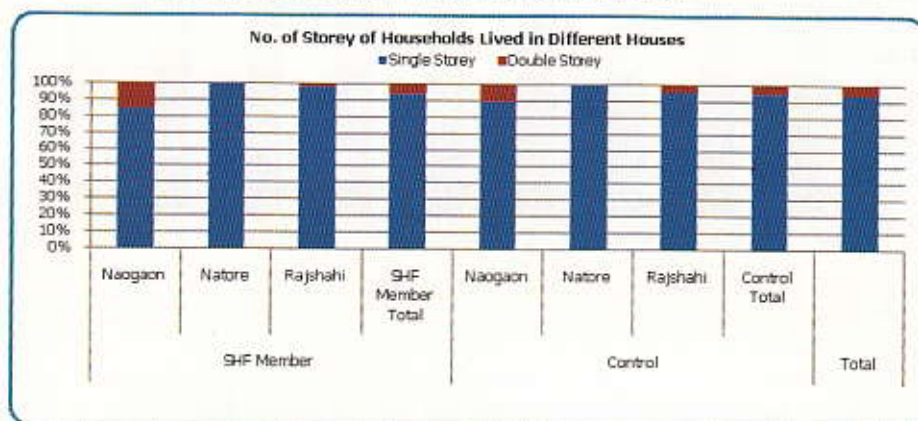


Figure 23: No. of Storey of Households Lived in Different Houses

Among the SHF group, more houses with single room are in Naogaon and Natore followed by Rajshahi. Houses with double rooms are more in Naogaon and Rajshahi followed by Natore whereas houses with three/ four/ five rooms and above are more in Natore than other two districts.

Similarly under control group, Naogaon has more houses with single rooms than the other two districts whereas Rajshahi has more houses with double and three rooms. Natore has more houses with five and above numbers of rooms.

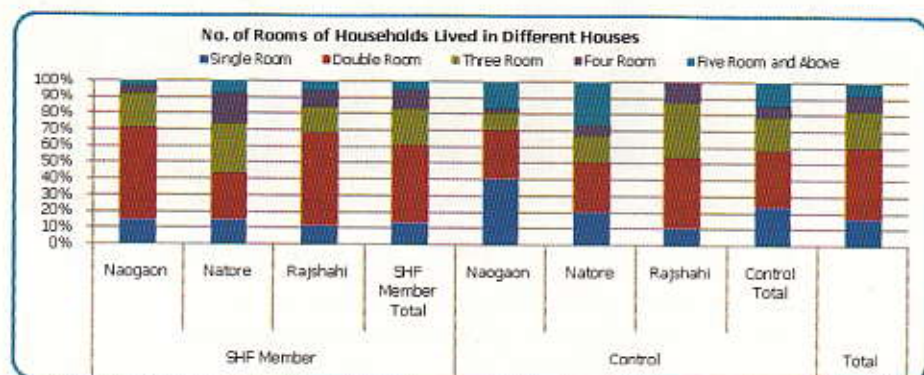


Figure 24: No. of Rooms of Households Lived in Different Houses

3.2 ELECTRICITY

The status of electrification among the SHF group shows that more households (97.8%) of Naogaon, 21.1% of Rajshahi and 6.7 % of Natore are deprived of connection whereas households with regular supply of electricity are more in Natore (93.3%) followed by Rajshahi (78.9%) and Naogaon (6.7%).

Among the control group, 96.7% houses of Naogaon, 20% of Rajshahi and 10% of Natore are deprived of connection whereas irregular/poor supply is available for more houses of Natore followed by Rajshahi. It is hence clear that as far as availability of electricity at household level is concerned, Naogaon is more vulnerable than the other two districts. This indicates that interventions requiring electricity like food processing and preserving etc cannot be promoted in Naogaon with ease.

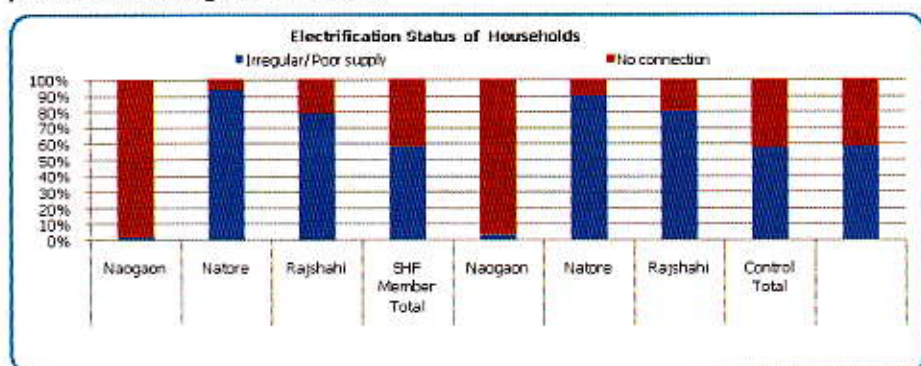


Figure 25: Electrification Status of Household

The further analysis of electrification status as per the social categories shows that more Ethnic households do not have connection than the Bangali households.

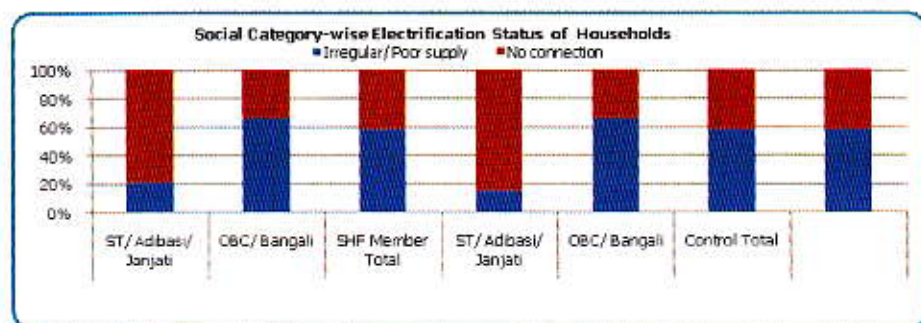


Figure 26: Social Category-wise Electrification Status of Households

The gender based analysis shows that more male headed households do not have connections.

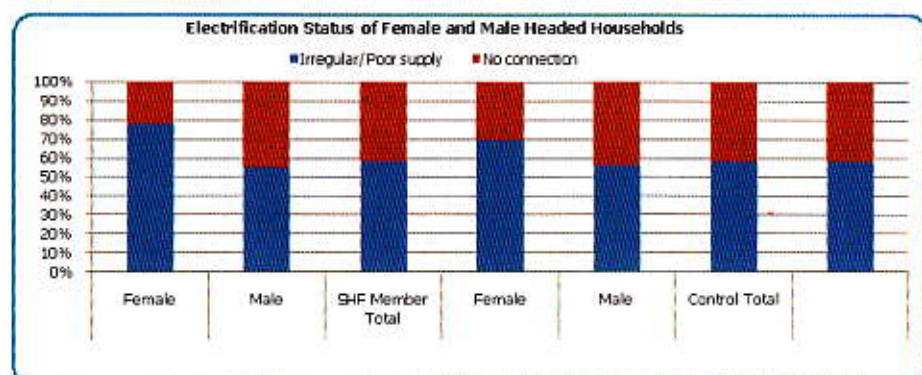


Figure 27: Electrification Status of Female and Male Headed Households

3.3 FUEL USED

It has been found that at household level, people of all the three districts use multiple types of fuel. The leading fuels include fuel wood, leaves and crop/ animal residue. The use of clean fuels like LPG is very minimal and simultaneously use of kerosene is also very less across all the districts. From the pattern of fuels used it is evident that household level air pollution is quite high and hence women and children health is at most risk. Further diversion of animal residues like cow dung also restricts their uses as manure which leads to more expenses in agriculture in terms of procurement of fertilizers etc.

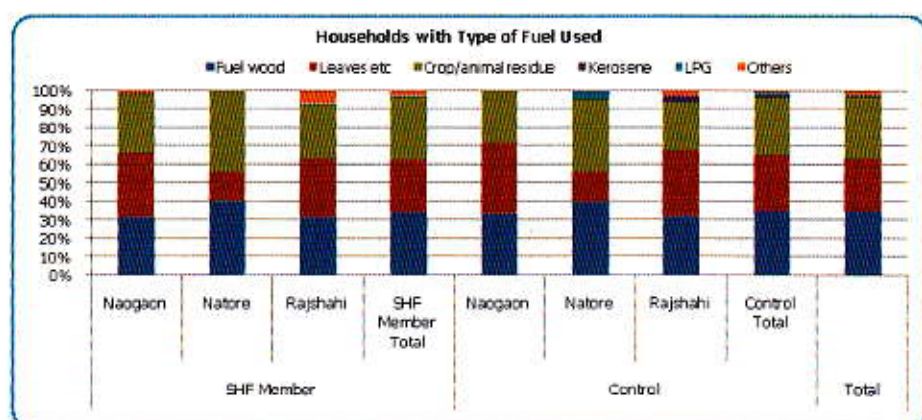


Figure 28: Households with Type of Fuel Used

3.4 DRINKING WATER

The analysis of drinking water scenario shows that among the SHF group, all the households of Natore, 94.4% of Naogaon and 85.4% of Rajshahi have wells in their residence/yard/plot whereas none of the households except 13.5% of Rajshahi have access to public tap. Public hand pumps are accessible to only 5.6 of the Naogaon households.

Similarly, within the control group, all the households of Natore, 86.7% of Naogaon and 86.7% of Rajshahi have wells in their residence/yard/plot. Public tap is available to 10% HHS of Rajshahi only. Public hand pump and public wells as sources of drinking water is quite limited.

In general, since most of the households of all the three districts have their own wells, the access and ownership related issues and challenges are limited. Further the structure maintenance related issues will be minimal.

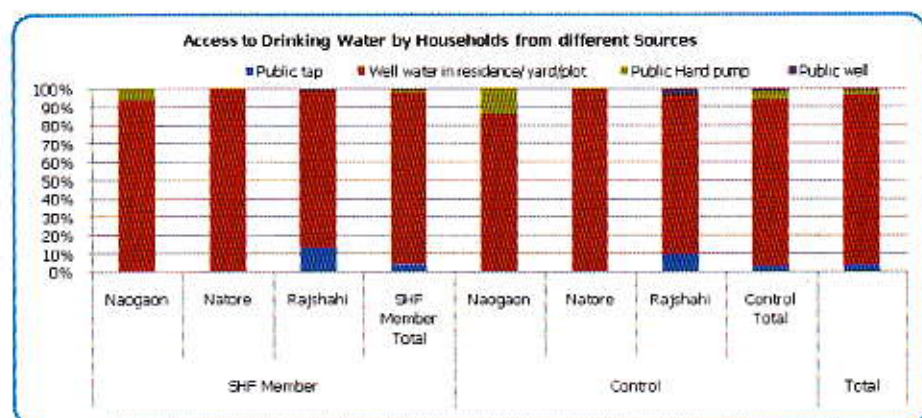


Figure 29: Access to Drinking Water by Households from different Sources

3.5 SANITATION

Open defecation is more in Naogaon for both SHF and control households. Highest percentage of Rajshahi households have on pit sanitation facility followed by Naogaon and closely followed by Natore whereas off pit sanitation facility is more in Naogaon. Other modes of sanitation are more prevalent in Natore followed by Rajshahi.

The overall scenario shows that more people of Naogaon are prone to infection as compared to people of other two districts.

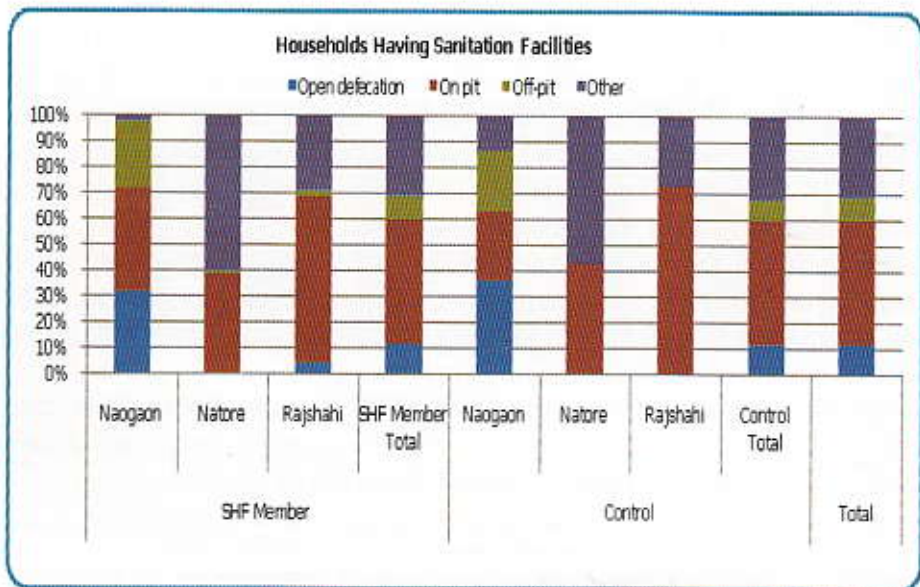


Figure 30: Households Having Sanitation Facilities

3.6 HOUSEHOLD ASSETS

3.6.1 HOUSEHOLD ITEMS

Of the total households of SHF group, 95.6% of all the households have beds. More percentage of Natore households has televisions whereas more households of Rajshahi have mobiles. Stereo/ deck, stove (LPG/ kerosene) etc as own household assets are very minimal. Among the control group, more percentage of Natore households has beds followed by Natore and Rajshahi. Around 80% of Natore households have mobiles followed by Rajshahi and Naogaon. 40% households of Rajshahi and 36.7% of Naogaon have mobiles. None of the control households of Natore have mobiles.

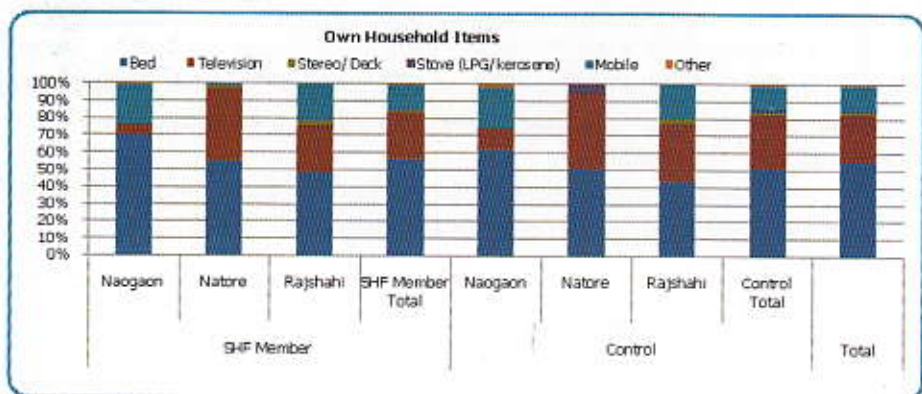


Figure 31: Own HH items

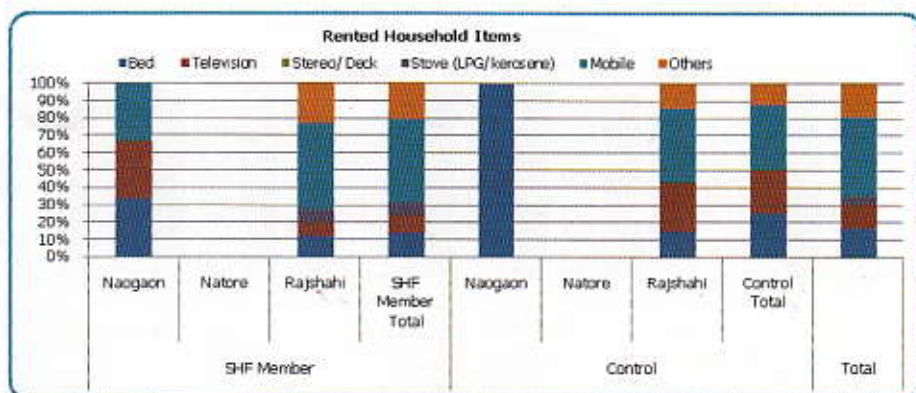


Figure 32: Rented HH items

3.6.2 VEHICLE AT HH

Around 75.6% HHs of Rajshahi, and 52.2% HHs of both Naogaon and Natore have won cycles. Moped is more in Natore followed by Rajshahi and Naogaon whereas cars are more in Naogaon though at limited household level. Similarly, within control households, more HHs of Rajshahi have cycles followed by Naogaon and Natore. More motor cycles are in Natore followed by Rajshahi and Naogaon. None of the control households have cars/jeeps and moped/ scooters.

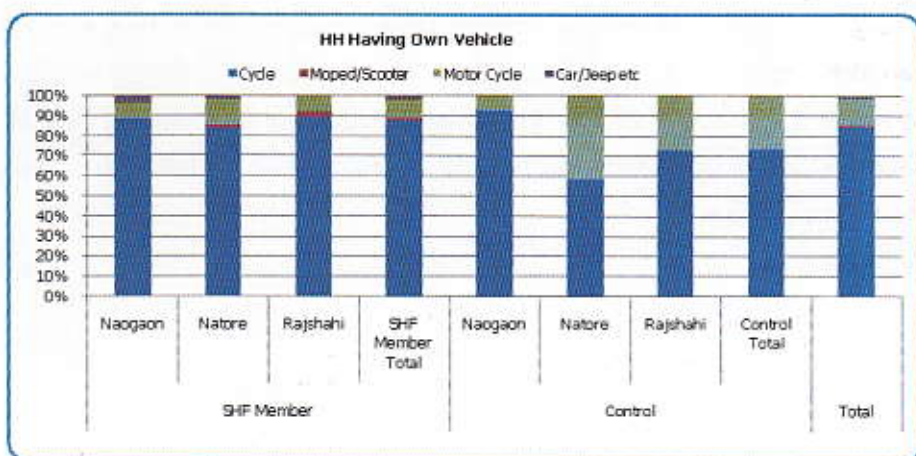


Figure 33: Own vehicle

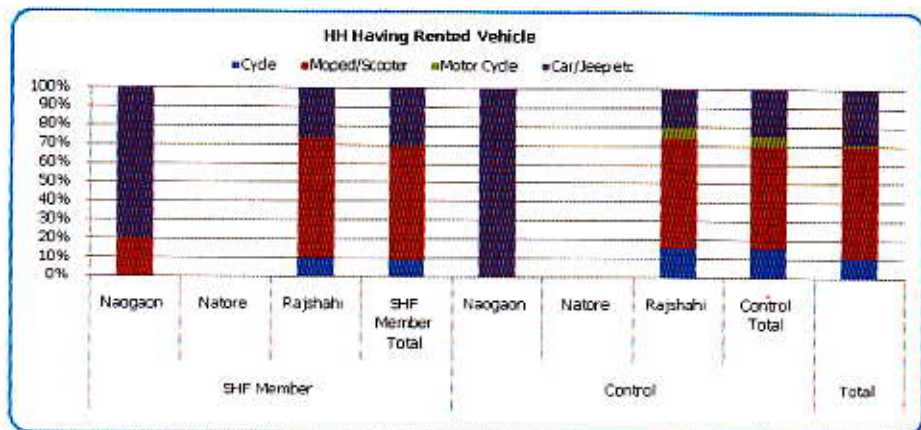


Figure 34: Rented vehicle

3.6.3 AGRICULTURE IMPLEMENTS

Among the agricultural equipments, 27.8% of Naogaon households have country plough followed by 14.4% of Rajshahi and 4.4% of Natore HHs. Manual weeder/winnower is available at 96.7% households of natore followed by 62.2% of Rajshahi and 50% of Naogaon HHs. Presence of improved plough is very low and is limited to only 6.7% of Naogaon HHs. Further, mechanical devices are more in Naogaon HHs whereas motor pumps are more in case of Naogaon. More households of Rajshahi have power tillers/tractors.

Among the control households, country plough is available at 10% HHs of Naogaon and 13.3% of households of Natore and Rajshahi. Manual weeder/winnower is available in 83.3% HHs of Natore, 53.3% of Rajshahi and 30% of Naogaon households. More households of Natore have power tillers and mechanical devices.

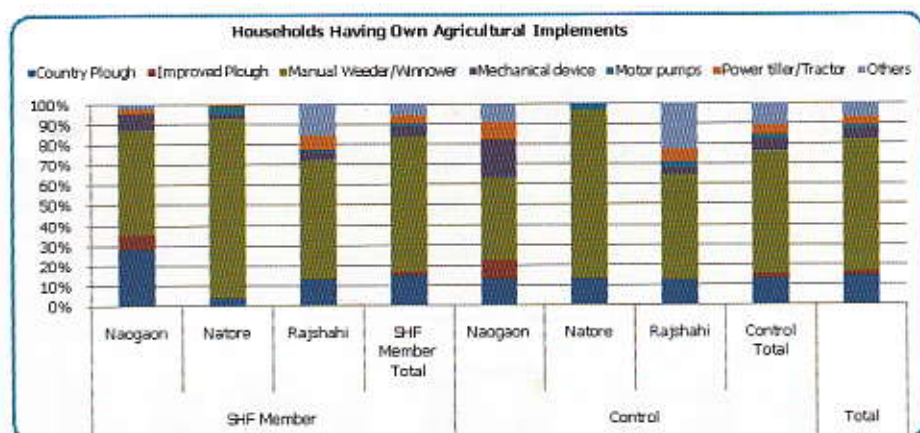


Figure 35: Own agricultural implements

Within SHF households, power tiller is the leading hiring/renting implement followed by country plough. Mechanical devices are rented more in Naogaon whereas improved ploughs are rented by more households of Rajshahi. Within control group also power tiller/tractor is leading rented implement followed by country plough. All the households of Natore rent power tillers/tractors. Overall saying, hiring of power tillers/tractors and mechanical devices as well as improved ploughs is a good sign of development towards farm mechanization.

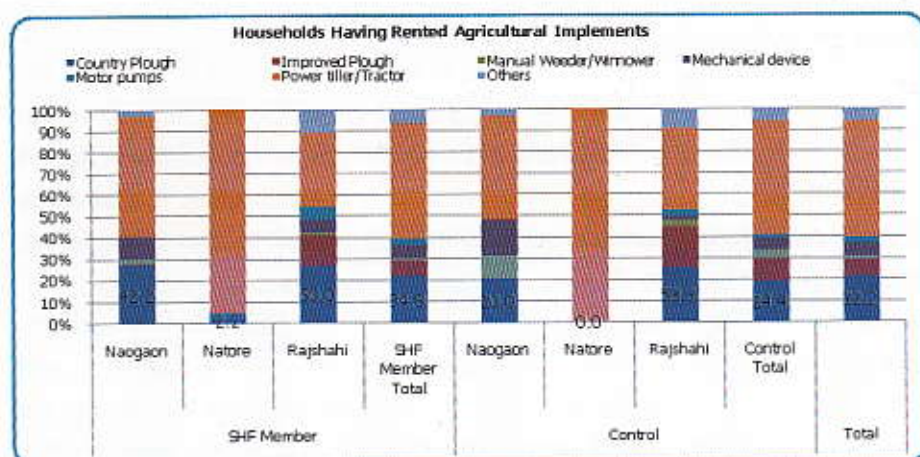


Figure 36: Rented agricultural implements

CHAPTER IV

AGRICULTURE STATUS

4.1 LAND UTILIZATION PATTERN

The analysis of land utilization pattern shows that while most of the households (around 85%) have cultivated lands, very few households have homestead lands.

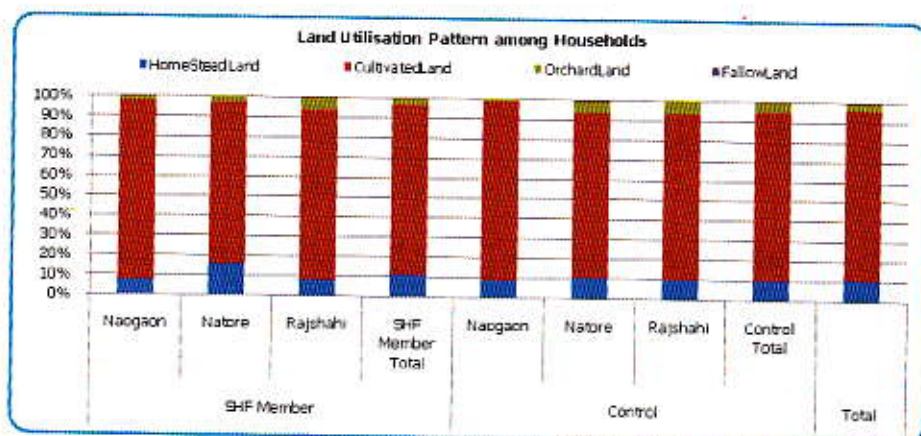


Figure 37: Land Utilization Pattern among Households

4.2 LAND HOLDING PATTERN

Within the SHF group, the percentage of households with no cultivable land and land holding up to 0.25 ha is more in Naogaon followed by Rajshahi and Natore whereas houses with 0.26 to 0.5 ha land holding are more in Natore followed by Naogaon and Rajshahi. More percentage of households of Natore has land holding 0.51 to 1 ha. From the pattern of landholding it is clear that more houses of Naogaon are vulnerable as compared to that of other two districts.

Similarly, within the control group, more households without any cultivable land are in Naogaon followed by Natore and Rajshahi. Households with landholding up to 0.25 ha are more in Rajshahi followed by Natore and Naogaon whereas households with landholding of 0.26 to 0.5 ha are more in Rajshahi followed by Natore and Naogaon. Households with landholding of 1.1 ha to 2 ha are more in Natore followed by Naogaon and Rajshahi.

As evident from the following graph, within the SHF group, Natore is in advantageous position whereas in control group Rajshahi households are in better position.

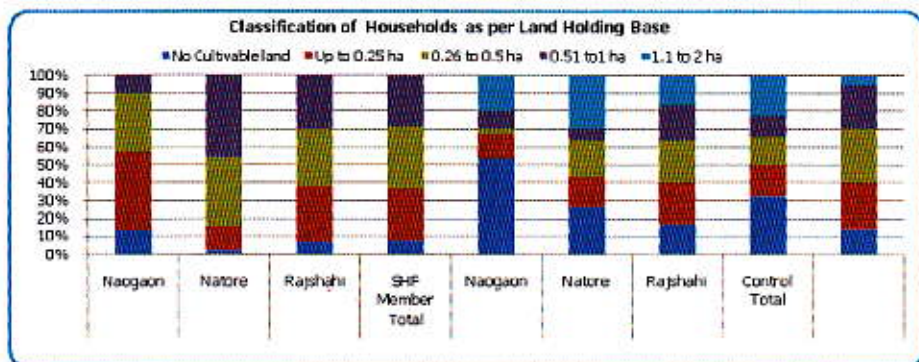


Figure 38: Classification of Households as per Land Holding Base

4.3 LAND HOLDING CLASSIFICATION AMONG SOCIAL CATEGORIES

Analysis of landholding pattern across various social categories shows that within the SHF group, more numbers of Ethnic households are without any cultivable land and with 0 to 0.25 ha landholding. Further, households with 0.51 to 1 ha lands are more in Bangali category. None of the household is having 1.1 to 2 ha land. It is clear that the Bangali households are in better position than their Bangali counterparts.

Among the control households also more households without any cultivable lands are in Ethnic category whereas households with land holding up to 0.25 ha are more in Bangali category. Bangali households are also in better position in other landholding categories than their Ethnic counterparts. Overall scenario shows that control households are in better position than the SHF households.

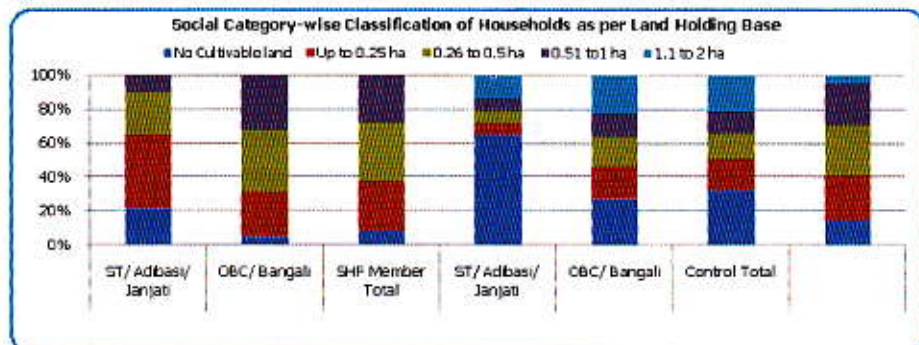


Figure 39: Social Category-wise Classification of Households as per Land Holding

The following table shows the analysis of land ownership on the basis of primary occupation. It reveals that households with subsistence farming as the primary occupation top in all categories of land holdings.

Table 3: Land Ownership * Primary Occupation of Head of the Household (in %)								
SHF Member / Control	Land Ownership	Wage labour – unskilled / Agril	Wage labour – Skilled	Subsistence Farming	Organized farmer (mech farming)	Service	Business	Others
SHF Member	No Cultivable land	0.0	0.0	95.0	0.0	0.0	5.0	0.0
	Up to 0.25 ha	0.0	5.1	91.1	1.3	0.0	0.0	2.5
	0.26-0.5 ha	0.0	3.2	95.7	0.0	1.1	0.0	0.0
	0.51-1 ha	0.0	1.3	97.4	0.0	0.0	1.3	0.0
	SHF Member Total	0.0	3.0	94.8	0.4	0.4	0.7	0.7
Control	No Cultivable land	13.8	13.8	65.5	0.0	0.0	3.4	3.4
	Up to 0.25 ha	6.3	0.0	87.5	0.0	6.3	0.0	0.0
	0.26-0.5 ha	0.0	0.0	92.9	7.1	0.0	0.0	0.0
	0.51-1 ha	0.0	0.0	72.7	0.0	18.2	9.1	0.0
	1.1-2 ha	0.0	0.0	75.0	5.0	0.0	20.0	0.0
	Control Total	5.6	4.4	76.7	2.2	3.3	6.7	1.1
Total		1.4	3.3	90.3	0.8	1.1	2.2	0.8
Source: Household Primary Survey 2012-13								

The gender based analysis of land holding shows that within SHF group, landlessness pattern is almost similar in both female headed as well as male headed households whereas households with landholding up to 0.25 ha are more in female headed category than the male headed category. None of the households have more than 1.1 ha land holding. Similarly, within the control group, landlessness is more in male headed households whereas more percentages of female headed households are having 0 to 0.25 ha landholding. More percentages of male headed households are with landholding of 0.51 to 1 ha whereas more percentages of male headed households are with 1.1 to 2 ha landholding.

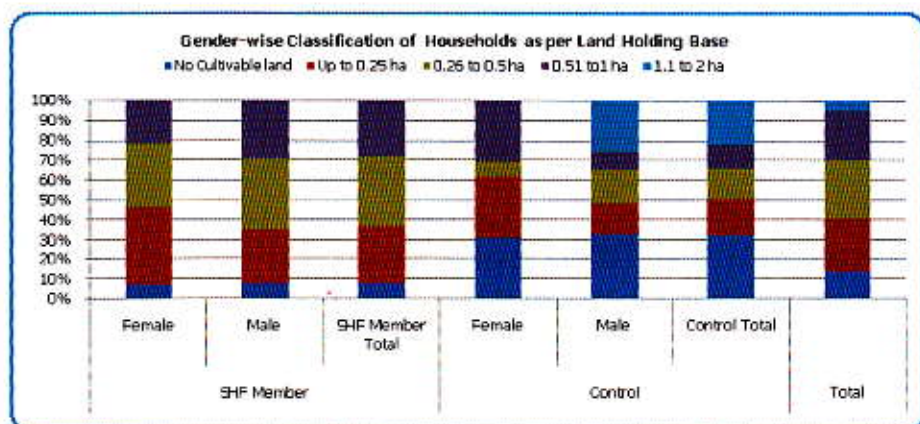


Figure 40: Gender-wise Classification of Households as per Land Holding Based

The per household landholding of various types of land shows that among the SHF group, Natore leads in homestead and rainfed cultivated land holding whereas Rajshahi leads in irrigated cultivated, irrigated orchard, rainfed orchard and fallow landholding. Similarly, within the control group Naogaon leads in irrigated cultivated landholding, Natore leads in homestead, rainfed cultivated, rain fed orchard and fallow landholding whereas Rajshahi leads in irrigated orchard.

Table 4: Average land holding per HH

SHF Member	Type of Land Holding	Naogaon	Natore	Rajshahi	Total
SHF Member	Homestead Land	0.036	0.093	0.041	0.057
	Irrigated cultivated land	0.104	0.000	0.126	0.076
	Rain fed cultivated land	0.352	0.492	0.330	0.391
	Irrigated orchard	0.000	0.000	0.003	0.001
	Rain fed orchard	0.010	0.017	0.031	0.019
	Fallow land	0.000	0.000	0.001	0.001
Control	Homestead Land	0.062	0.135	0.059	0.085
	Irrigated cultivated land	0.312	0.000	0.284	0.199
	Rain fed cultivated land	0.366	1.142	0.244	0.584
	Irrigated orchard	0.009	0.000	0.013	0.007
	Rain fed orchard	0.001	0.079	0.028	0.036
	Fallow land	0.000	0.013	0.000	0.004
Total	Homestead Land	0.043	0.103	0.046	0.064
	Irrigated cultivated land	0.156	0.000	0.165	0.107
	Rain fed cultivated land	0.356	0.654	0.309	0.439
	Irrigated orchard	0.002	0.000	0.005	0.002
	Rain fed orchard	0.008	0.032	0.030	0.023
	Fallow land	0.000	0.003	0.001	0.002

4.4 LAND OWNERSHIP PATTERN

As far as land ownership is concerned within SHF group, more houses of Natore have own land followed by Rajshahi and Naogaon. The houses with leased in lands are more in Naogaon, followed by Rajshahi and Natore whereas houses with leased out lands are more in Naogaon followed by Natore and Rajshahi. However households with leased-in and leased-out lands are very minimal in all the three districts.

Within the control group, 99.9% of Natore HHs are having their own land followed by 86.1% of Naogaon and 84.2% of Rajshahi HHs. More percentages of households with rented/ leased out lands are in Naogaon followed by that of Rajshahi.

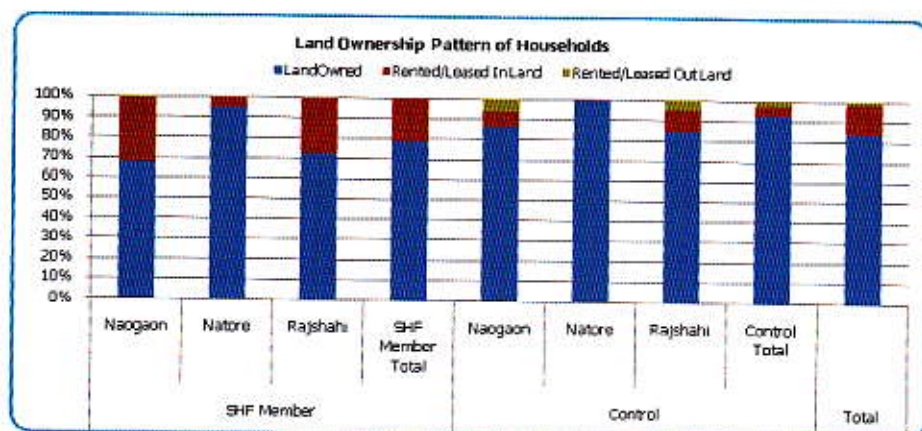


Figure 41: Land Ownership Pattern of Households

4.5 LAND UNDER IRRIGATION

Within the SHF group, irrigated land is more in case of Rajshahi followed by Naogaon. There is no irrigated land in Natore. However percentage of irrigated land is less than 30% in both the districts. Similarly, among the control group, the percentage of irrigated land is more in Rajshahi followed by Naogaon and no irrigated land is there in Natore.

In general the irrigation scenario is better in control households than the SHF households. However the absence of irrigated land in Natore makes the entire cropping system vulnerable to climate change related shocks.

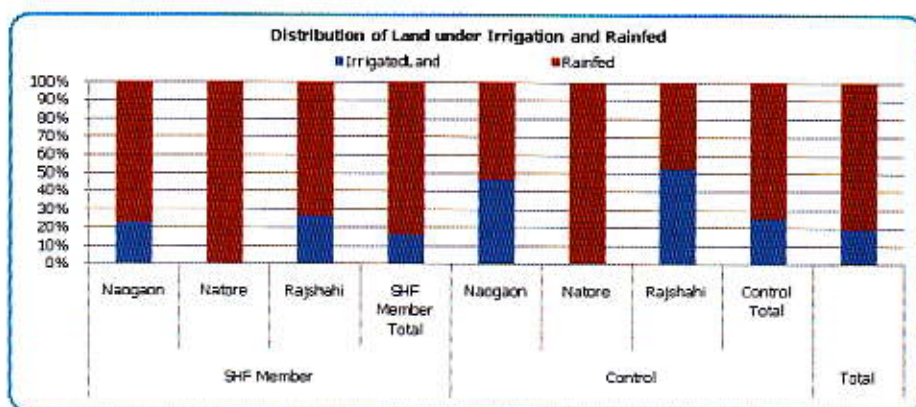


Figure 42: Distribution of Land under Irrigation and Rainfed

4.6 CROPPING SCENARIO

The analysis of agriculture scenario of the SHF members shows that Naogaon has more percentage of land under agriculture followed by Rajshahi and Natore. Maize is only grown in Rajshahi. Area under wheat is more in Natore followed by Rajshahi. Similarly, area under pulse is more in Natore and tuber is also grown only in Natore. The following table shows that all listed crops except tuber are grown in Rajshahi. This indicates that the crop diversity is more in Rajshahi as compared to the other two districts.

Table 5: Agricultural Cropping Scenario of SHF Member : Percentage of Total Crop Area

Crop	Naogaon	Natore	Rajshahi	Total
Paddy	92.8	41.2	55.3	55.9
Maize	0.0	0.0	6.9	1.9
Wheat	0.0	24.6	12.1	16.0
Potato	4.4	0.0	14.1	4.9
Pulse	0.0	30.1	3.7	16.5
Tuber	0.0	2.9	0.0	1.5
Vegetable	2.7	0.8	5.7	2.6
Fruit	0.1	0.4	2.2	0.8
Total Crop Area	100.0	100.0	100.0	100.0

Source: Household Primary Survey 2012-13

Similarly, within the control group, area under paddy is more in Naogaon followed by Rajshahi and Natore whereas maize is only grown in Rajshahi. Area under wheat is highest in Natore whereas area under potato is more in Rajshahi. More pulse and fruit area is in Natore. Tuber is only grown in Natore. It is clear from the following table that all the crops except tuber are grown in Rajshahi. Hence in total, Rajshahi is in better position as far as the cropping scenario is concerned.

Table 6: Agricultural Cropping Scenario of Control : Percentage of Total Crop Area

Crop	Naogaon	Natore	Rajshahi	Total
Paddy	88.1	37.0	62.6	53.4
Maize	0.0	0.0	6.4	1.6
Wheat	0.6	26.0	6.6	16.2
Potato	7.5	0.0	18.5	6.1
Pulse	0.0	26.8	1.0	15.1
Tuber	0.0	6.8	0.0	3.8
Vegetable	3.5	0.0	3.1	1.5
Fruit	0.2	3.4	1.8	2.4
Total Crop Area	100	100	100	100

Source: Household Primary Survey 2012-13

4.7 FOOD PRODUCTION PRACTICES

Average area under biological mode of integrated pest management is more in Rajshahi followed by Naogaon whereas mechanical method is only adopted in Naogaon. Chemical method is adopted in all the three districts whereas integrated method is used only in Naogaon and Natore.

Similarly, under integrated nutrient management, only the farmers from Rajshahi adopt green manuring, bio-fertilisers and other methods.

Average area under IPM (ha)						Average area under INM (ha)		
District	Biological (botanical & animal)	Mechanical	Chemical	Integrated	Other	Green manuring	Biofertilizers	Others
Naogaon	0.19	0.40	0.32	0.50				
Natore			0.25	0.28	0.13			
Rajshahi	0.97		0.86		0.39	0.27	0.34	0.56

The following table shows the comparison of areas under different cultural practices. It is clear that more types of cultural practices are adopted in Rajshahi than the other two districts.

Table 7: Average area under different practices (ha)

SHF Member / Control	Districts	Inter cropping	Relay cropping	Delay sowing	Manual harvesting	Individual harvesting	Collective harvesting
SHF Member	Naogaon	0.00	0.00	0.00	0.42	0.38	0.01
	Natore	0.03	0.00	0.43	0.46	0.01	0.00
	Rajshahi	0.01	0.88	0.04	0.48	0.48	0.00
	SHF Member Total	0.01	0.29	0.16	0.45	0.29	0.00
Control	Naogaon	0.00	0.00	0.00	0.63	0.63	0.00
	Natore	0.13	0.00	0.61	0.91	0.00	0.00
	Rajshahi	0.00	0.08	0.03	0.45	0.44	0.00
	Control Total	0.05	0.03	0.21	0.66	0.36	0.00
Total		0.02	0.23	0.17	0.51	0.31	0.00

Source: Household Primary Survey 2012-13

CHAPTER V LIVESTOCK STATUS

5.1 HOUSEHOLD LEVEL LIVESTOCK

Following graphs show the percentages of households owning different types of livestock. Among the SHF group, more houses of Naogaon have cows followed by Rajshahi and Natore whereas more bullocks are in Rajshahi followed by Natore and Naogaon. However, percentages of households having bullocks are less than 30% for all the districts. Further, more households of Rajshahi are having poultry, goat and other types of animals. Overall, Rajshahi households are in better position

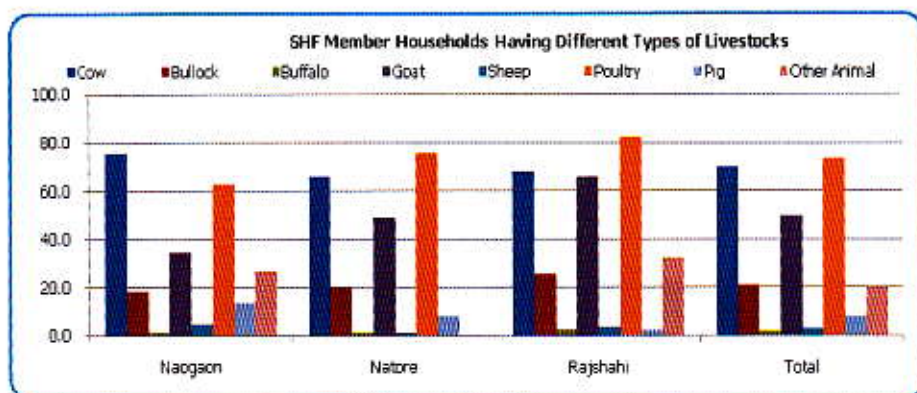


Figure 43: Households Having Different Types of Livestock

Within control group, Rajshahi households have more cows, bullocks, goats and poultry and hence are in better position than the households of other two districts.

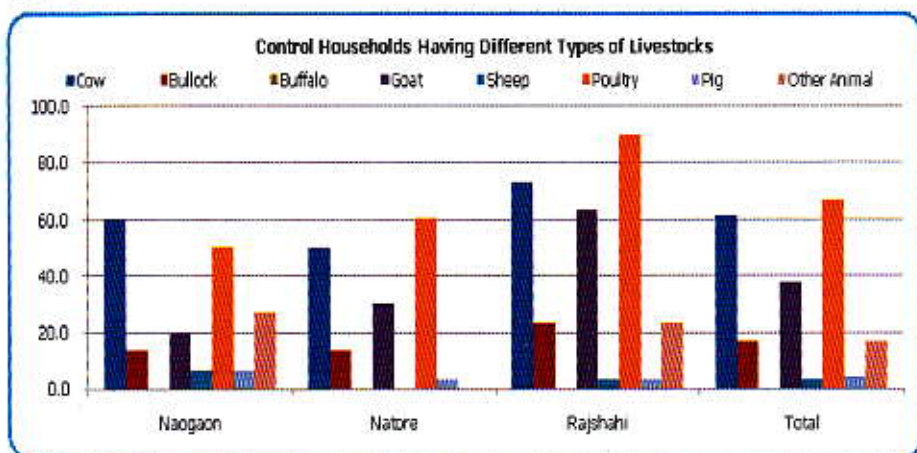


Figure 44: Households Having Different Types of Livestock

The per household livestock population table shows that Naogaon has highest number of cows, sheep and pigs while Rajshahi has highest number of bullocks, goats, poultry and other animals. None of the households of Rajshahi has pigs.

Table 8: Per household livestock population

Animal types	Naogaon	Natore	Rajshahi	Total
Cows	2.0	1.4	1.9	1.8
Bullocks	0.2	0.2	0.4	0.3
Goats	0.9	1.1	1.9	1.3
Sheep	0.2	0.0	0.1	0.1
Poultry	4.9	5.0	7.2	5.7
Pig	0.2	0.1	0.0	0.1
Other	2.3	1.0	2.4	3.9

CHAPTER VI

LIVELIHOOD OF HOUSEHOLDS

6.1 HOUSEHOLDS ENGAGED UNDER DIFFERENT LIVELIHOOD OCCUPATIONS

The analysis of households engaged in different livelihood sectors shows that highest percentage of households of both SHF and control group of all the three districts are engaged in subsistence farming. Households with both unskilled and skilled wage labour are more in Naogaon.

It is evident from the following graph that the control households are in better position than the SHF ones.

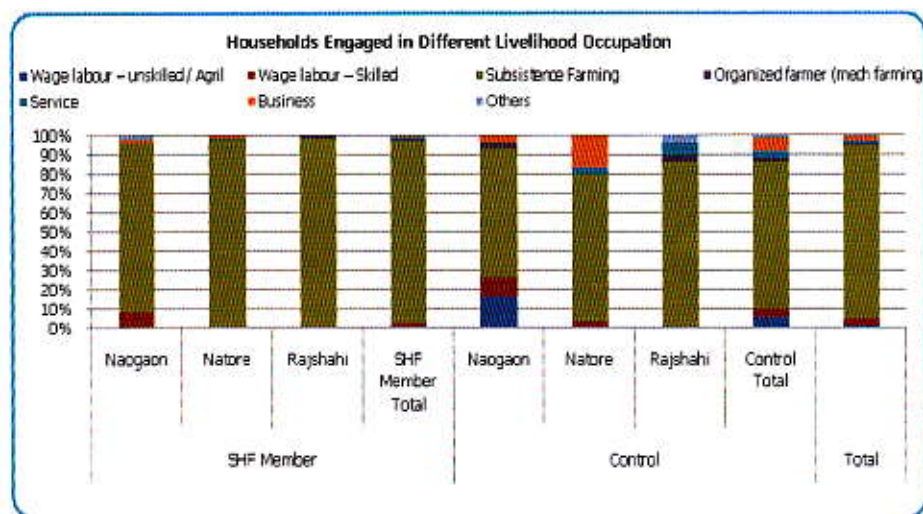


Figure 45: Households Engaged in Different Livelihood Occupations

6.1.1 LIVELIHOOD OCCUPATION VS ECONOMIC CATEGORY

Subsistence farming is the leading occupation in all well being categories of the households. Households doing business and organized farming as primary source of income are more in well off category whereas more unskilled and skilled labours are under very poor category. The highest percentage of households doing business and organized farming under well off category may be attributed to their investment capacity due to better economic status. Overall situation shows that control households are in better position.

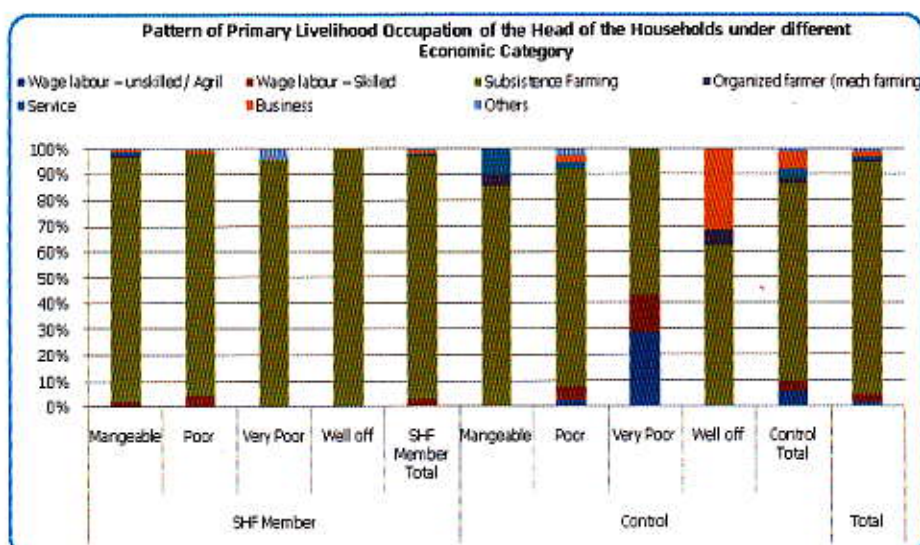


Figure 46: Pattern of Primary Livelihood Occupation of Households under different Economic Category

6.1.2 LIVELIHOOD OCCUPATION WITH GENDER DISTRIBUTION

The gender based analysis of primary occupation reveals that subsistence farming is the leading sector of engagement for both female and male headed households. Households doing business and skilled wage labour are more under male headed households. None of the female headed household is engaged in organized farming.

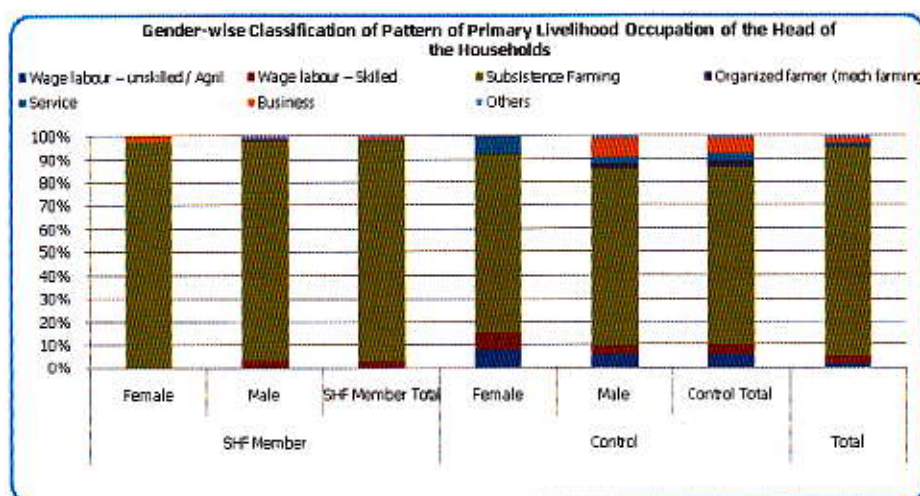


Figure 47: Gender-wise Classification of Pattern of Primary Livelihood Occupation of the Head of the Households

6.2 INCOME

6.2.1 SOURCES OF INCOME

For the SHF households, agriculture is the main source of income for all the three districts, where Naogaon leads, closely followed by Rajshahi and Natore. Under livestock as source of income also Naogaon leads followed by Rajshahi and Natore whereas under business category Natore leads followed by Rajshahi and Naogaon. Service as a source of income is very minimal in Naogaon as compared to the other two districts whereas wage labour is the source of income for more households of Naogaon than the other two districts.

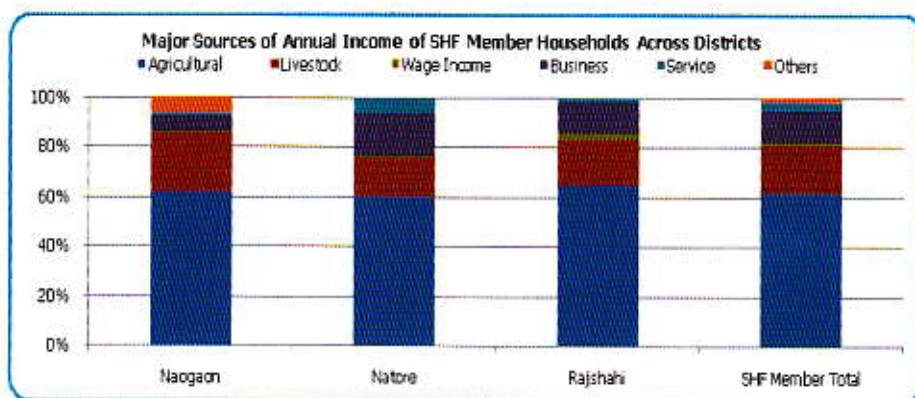


Figure 48: Major Sources of Annual Income of Households

Similarly, for the control households also the main source of income is agriculture where Naogaon is followed by Rajshahi and closely followed by Natore. More households of Naogaon have livestock as a source of income. Under business segment Natore leads followed by Rajshahi and Naogaon. None of the household of Naogaon is having service as the major source of income.

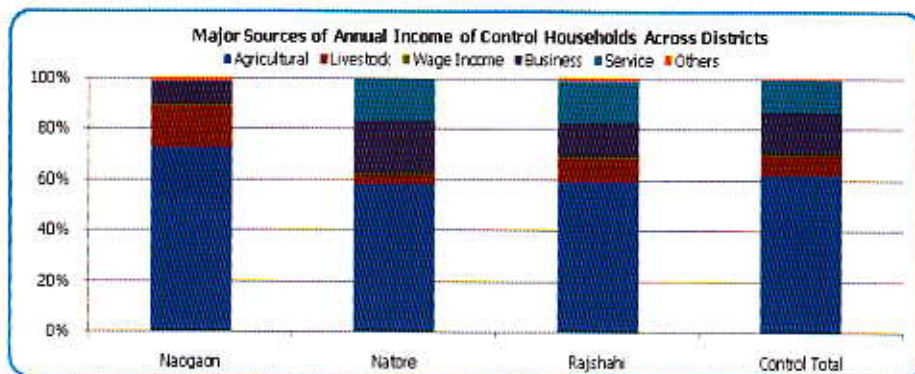


Figure 49: Major Sources of Annual Income of Control Households

6.2.2 AVERAGE ANNUAL INCOME OF THE HOUSEHOLDS

The following table shows the source wise cash flow at household level. It reveals that from agriculture, Natore gets highest income followed by Rajshahi and Naogaon whereas from livestock, Naogaon gets more income followed by Natore and Rajshahi. More income from business and service is in Natore, followed by Rajshahi and Naogaon. Under income from wage labour, Naogaon leads.

Table 9: Average Annual Income of Households Across Districts from different Sources (in Local Currency)						
SHF Member / Control	Districts	Agricultural	Livestock	Business	Service	Wage & Others
SHF Member	Naogaon	34745	17362	3389	360	3534
	Natore	45869	15864	12894	5033	229
	Rajshahi	38620	11807	6349	973	1185
	SHF Member Total	39959	14885	7544	2122	1649
Control	Naogaon	91913	16826	6333	0	1148
	Natore	106532	10471	30468	24800	305
	Rajshahi	50857	11219	9833	12400	905
	Control Total	81055	12963	15545	12400	786
Total		48542	14468	9544	4692	1433
Source: Household Primary Survey 2012-13						

Similarly, among the control households, income from agriculture is more in Natore followed by Naogaon and Rajshahi whereas income from livestock is more in Naogaon followed by Rajshahi and Natore. Further, Natore also leads in income from business and service while Naogaon leads in income from wage labour.

The overall scenario shows that though the income trend for both SHF and control households is similar in nature the amount of cash flow is more in case of control households than the SHF HHs.

In case of the SHF households, the RoI (return on investment) calculation shows that for Naogaon and Rajshahi, better return is from agriculture while for Natore it is the livestock sector. Highest return from both agriculture and livestock is in Rajshahi. Return from livestock sector in Naogaon is very low as compared to other two districts and hence there is vast scope for improvement in terms of breed improvement, nutrition & health management of animals.

Among the control households, RoI in agriculture is better in case of Naogaon and Rajshahi whereas in case of Natore there is better RoI in livestock. The overall comparison shows that SHF households have better RoI than the control HHs.

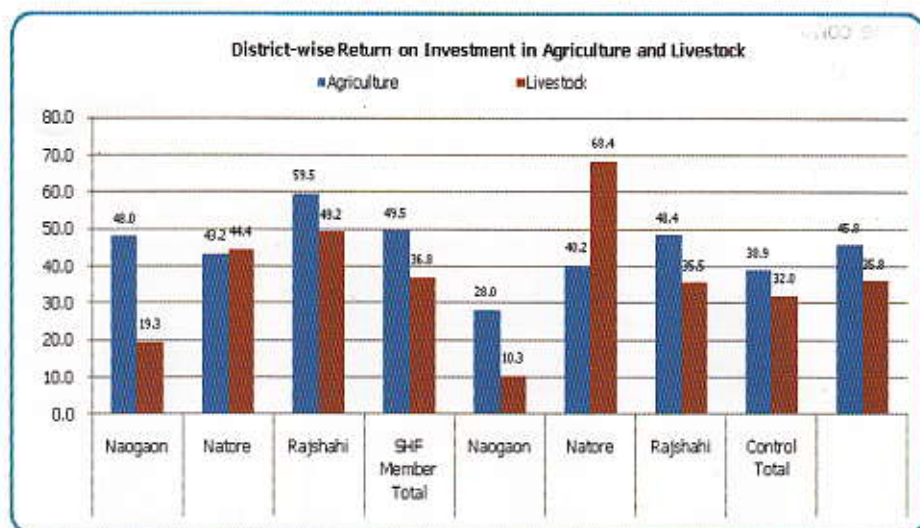


Figure 50: District-wise Return on Investment in Agriculture and Livestock

6.2.3 INCOME FROM AGRICULTURE

The crop wise analysis of SHF household level income shows that paddy is the major contributor for majority of HHs. More houses of Natore also get income from tuber crop as well as vegetables & fruits.

It is clear that while for Naogaon it is only paddy, in case of Natore and Rajshahi there are multiple sources. Hence Naogaon HHs are more vulnerable since failure of crops will hit a large mass than the other two districts.

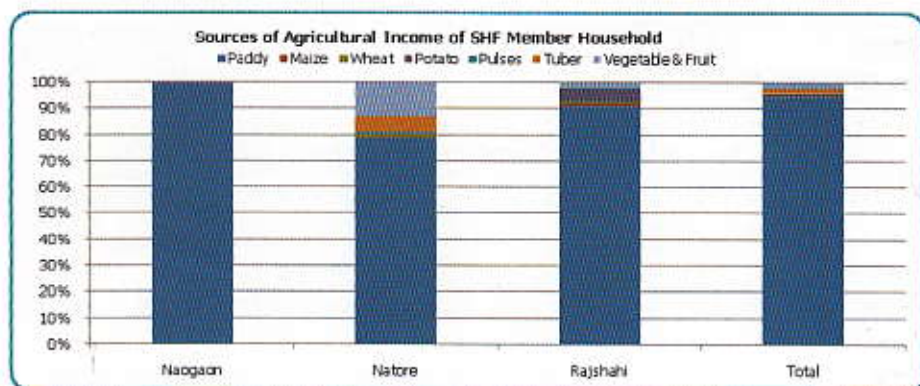


Figure 51: Sources of Agricultural Income of SHF Member Household

For the control households also paddy is the major source of income for most of the households. Around 50% HHs of Natore and 25% HHs of Rajshahi have income from other multiple crops like tuber, fruits & vegetables, pulse, potato etc. Hence it seems that Naogaon households are more vulnerable than the HHs of the other two districts.

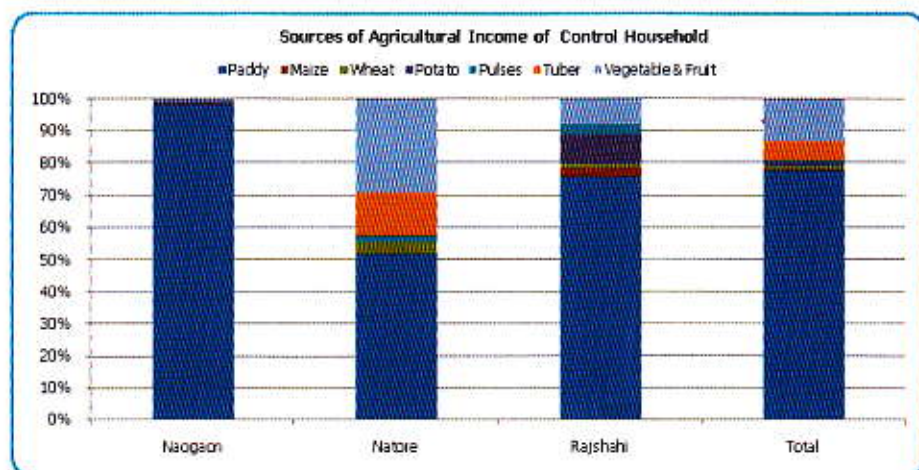


Figure 52: Sources of Agricultural Income of Control Household

The following table shows the cash inflow from different crops at household level.

Table 10: Average Income of SHF Member HH under Selling of Agricultural Crops

District	Paddy	Maize	Wheat	Potato	Pulses	Tuber	Vegetable & Fruit
Naogaon	33546	0	0	5205	0	0	9914
Natore	16902	0	14474	0	15558	73440	175273
Rajshahi	14380	10016	6760	38329	5610	0	16936
Total	23054	10016	12509	30048	14543	73440	116438

Source: Household Primary Survey 2012-13

Table 11: Average Income of Control HH under Selling of Agricultural Crops

District	Paddy	Maize	Wheat	Potato	Pulses	Tuber	Vegetable & Fruit
Naogaon	87050	0	0	12867	0	0	13067
Natore	56926	0	45277	0	26733	180000	380000
Rajshahi	19082	14538	4863	44686	15600	0	37319
Total	51882	14538	30122	39071	26249	180000	417256

Source: Household Primary Survey 2012-13

6.2.4 INCOME FROM LIVESTOCK

6.2.4.1 Distribution of Income under Livestock

The distribution of income from livestock shows that for both SHF as well as control households, cow calf is one of the major sources of income from livestock followed by milk. For both categories of HHs, Naogaon leads in the income from selling cow calf followed by Rajshahi and Natore. Selling of chickens and goat also contribute substantially towards income from the livestock.

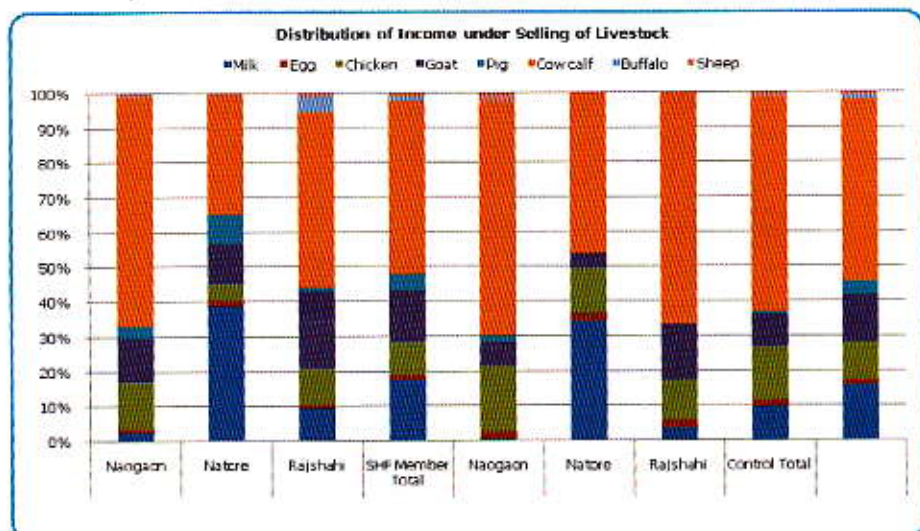


Figure 53: Distribution of Income under Selling of Livestock

The following table shows the income from selling of livestock and their products in terms of absolute cash flow to the households. While Natore leads in income from milk and pig, Naogaon leads in income from egg, chicken, goat and sheep and Rajshahi leads in income from cow calf and buffalo. None of the households of Naogaon and Natore get any income from buffalo. Similarly, among the control HHs, Naogaon leads in income from egg, chicken, goat, pig and sheep, Natore leads in income from milk and Rajshahi leads in income from selling cow calf.

Table 12: Average Income under Selling of Livestock (in Local Currency)									
SHF Member / Control	Districts	Milk	Egg	Chicken	Goat	Pig	Cow calf	Buffalo	Sheep
SHF Member	Naogaon	2369	1063	3721	8500	6500	19917	0	7500
	Natore	15413	683	1141	6832	24000	22265	0	6000
	Rajshahi	4032	301	1562	5463	5250	25594	36000	4750
	SHF Member Total	9010	550	2043	6529	12125	21866	36000	6100
Control	Naogaon	1313	1200	6340	11500	3250	20545	0	4500
	Natore	12190	852	2280	4000	0	20500	0	0
	Rajshahi	2865	283	1499	3600	0	24917	0	0
	Control Total	7217	558	3018	4786	3250	21786	0	4500
Total		8754	552	2246	6238	10857	21847	36000	5643
Source: Household Primary Survey 2012-13									

Source: Household Primary Survey 2012-13

6.3 INVESTMENT

6.3.1 DISTRIBUTION OF INVESTMENT UNDER AGRICULTURE AND LIVESTOCK

Investment in agriculture is more in all the three districts as compared to investment in livestock sector. Among all the three districts, the percentage of investment under agriculture is more Naogaon followed by Rajshahi and Natore.

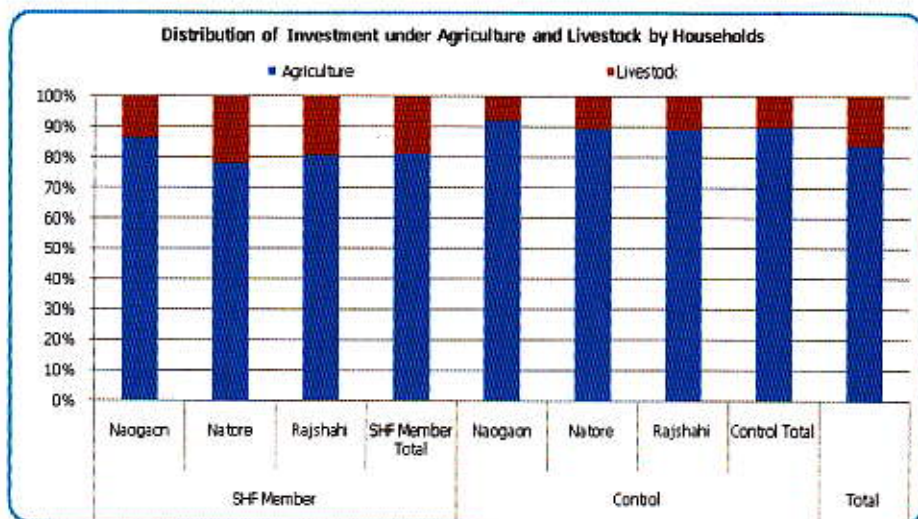


Figure 54: Distribution of Investment under Agriculture and Livestock by Households

6.3.2 INVESTMENT UNDER AGRICULTURE

The following chart shows the distribution of investments made in agriculture sector as per different inputs. Investment in fertilizer and others is more by both SHF as well as control HHs. Investment in agriculture is more in Naogaon followed by Natore and Rajshahi whereas investment in pesticide is more in Naogaon followed by Rajshahi and Natore. Investment in seed is more in Rajshahi.

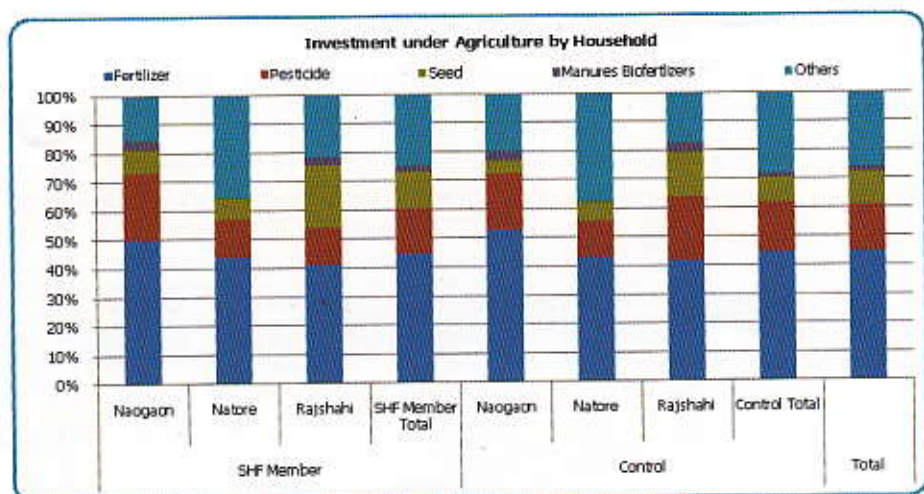


Figure 55: Investment under Agriculture by Household

Crop wise investment analysis shows that maximum investment in all the three districts is in paddy where Naogaon leads. Maximum investment in wheat & vegetables has been found in Natore whereas in case of potato, Rajshahi invests more.

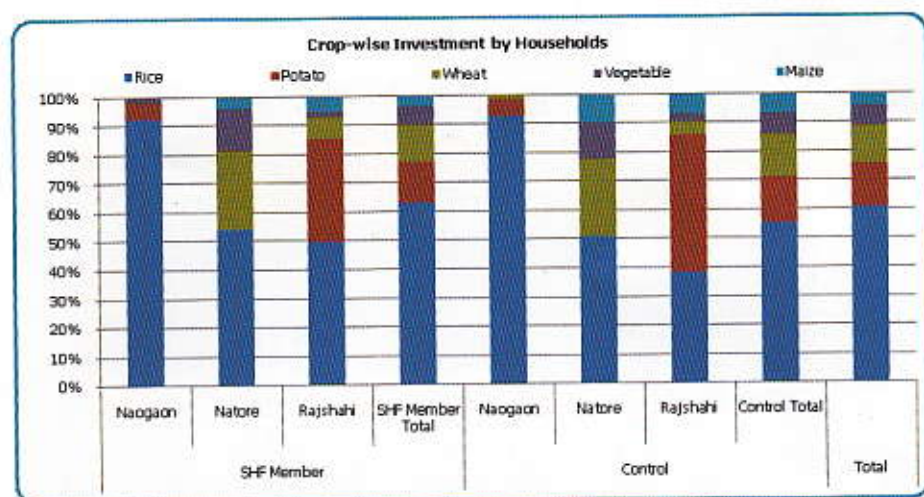


Figure 56: Investment under Agriculture by Household

6.3.3 AVERAGE INVESTMENT UNDER AGRICULTURE

The highest investment per households in fertilizers is in Natore followed by Rajshahi and Naogaon whereas Naogaon invests more in pesticide as compared to other two districts. Investment under seed and manure/bio-fertilizers is in Rajshahi whereas other investments are more in Natore. In total Rajshahi invests more in agriculture than the other two districts.

Table 13: Average Investment under Agriculture by Household (in Local Currency)							
SHF Member / Control	Districts	Fertilizer	Pesticide	Seed	Manures Biofertilizers	Others	Agriculture
SHF Member	Naogaon	7601	3582	1246	467	2295	15363
	Natore	8769	2594	1437	0	7016	19816
	Rajshahi	8230	2624	4280	572	4214	19920
	SHF Member Total	8200	2933	2321	346	4508	18378
Control	Naogaon	7307	2683	623	450	2680	21700
	Natore	14860	4328	2234	0	12835	42822
	Rajshahi	9013	4697	3317	633	3683	22080
	Control Total	10393	3903	2058	361	6399	28894
Total		8748	3176	2255	350	4981	20598

Source: Household Primary Survey 2012-13

6.3.4 INVESTMENT ON LIVESTOCK

Under investment for livestock, highest is being spent for feed/concentrate followed by medicines. Investment for fodder is more in Naogaon as compared to other two districts may be due to the fact that in that district highest percentages of households own cows.

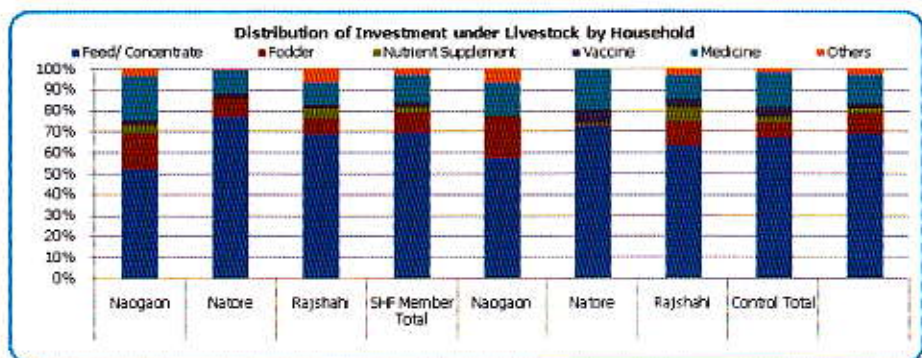


Figure 57: Distribution of Investment under Livestock by Households

Among the livestock major investment is for cow in all the three districts followed by for buffalo in Natore and goats in Rajshahi.

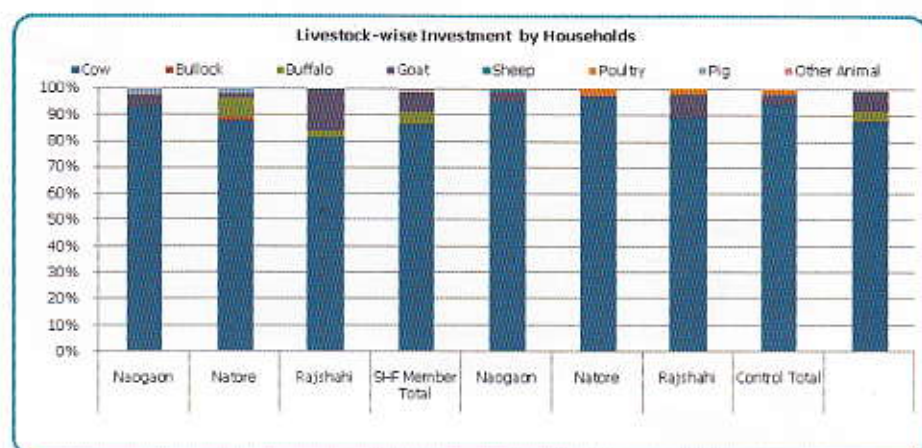


Figure 58: Distribution of Investment under different Livestock

6.4 HOUSEHOLD EXPENDITURE PATTERN

For the SHF households, food is the major expenditure of all the three districts followed by clothes &, savings, education, health & sanitation and others.

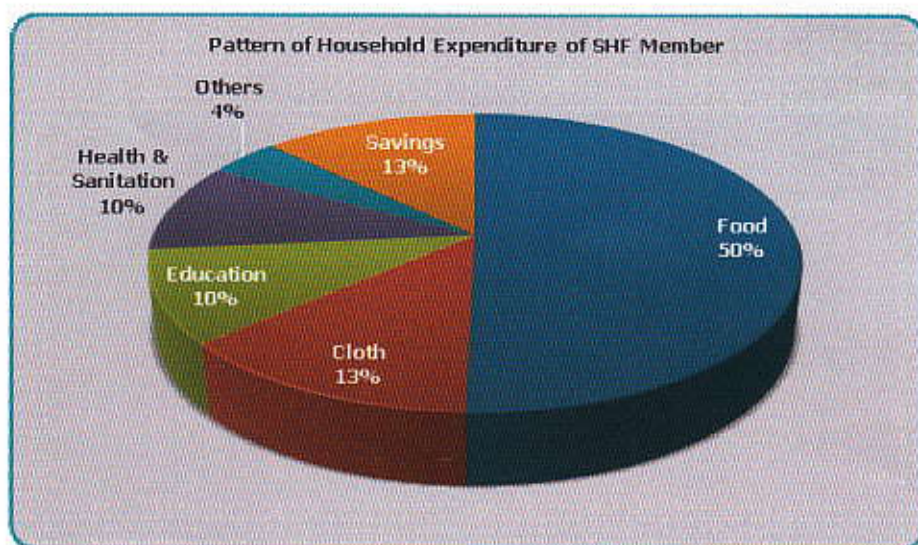


Figure 59: Expenditure Pattern of Household

For control households also the major expenditure is towards food followed by savings, clothes, education, health & sanitation and others. However comparison among the SHF and control HHs shows that control HHs spend more on food and save more than their SHF counterparts

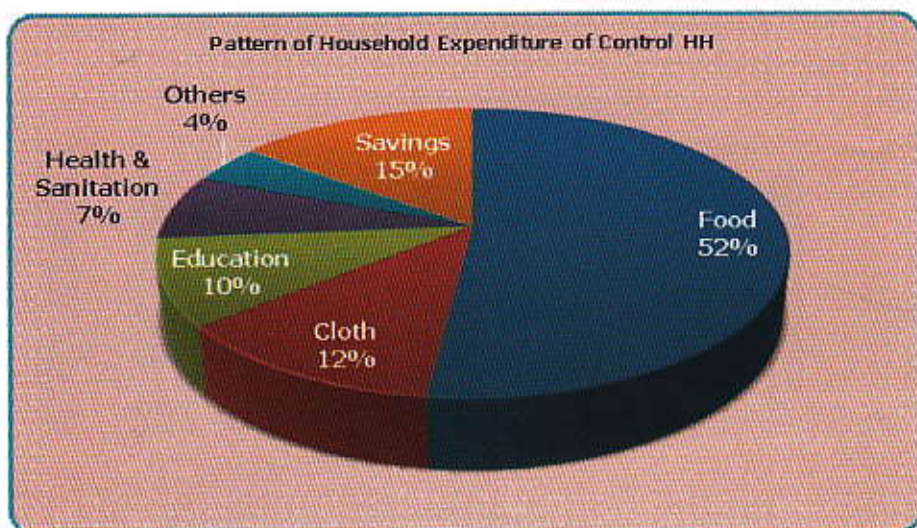


Figure 60: Expenditure Pattern of Household

In terms of absolute amount of money spent for different household expenditure heads, Rajshahi spends more for food, cloth, education, health & sanitation and others. This may be attributed to the better socioeconomic condition of Rajshahi houses as compared to the people of other two districts. Similarly for the control HHs, Natore spends more on education, health & sanitation and others while Rajshahi spends more on food and clothes.

Table 14: Average Household Expenditure Across Districts (in Local Currency)							
SHF Member / Control	Districts	Food	Cloth	Education	Health & Sanitation	Other	Savings
SHF Member	Naogaon	27034	5001	5260	4610	4916	5938
	Natore	32284	7967	9204	5522	4034	20362
	Rajshahi	39105	12339	11156	9026	7808	8903
	SHF Member Total	32808	8436	8834	6390	6035	11370
Control	Naogaon	33251	5696	12194	4672	5663	13762
	Natore	40737	10483	13705	6170	14989	23190
	Rajshahi	45703	11741	7333	6100	6688	8035
	Control Total	39832	9280	11047	5648	7757	14390
Total		34549	8645	9342	6207	6452	12153

Source: Household Primary Survey 2012-13

6.5 SAVINGS AND DEBTS

6.5.1 SAVINGS OF HOUSEHOLDS

The households were categorized under different ranges of saving. Among the SHF group, households saving <1000 and >1000 to 5000 are more in Naogaon followed by Rajshahi and Natore. Households

saving >5000 to 10000 are more in Rajshahi followed by Natore and Naogaon. Natore has more households saving 20,000 and above than the other two districts. Overall, Natore has a good mix of households of various saving categories.

Among the SHF households also the trend is more or less similar to the SHF households. However the percentages of households in different categories like >1000 to 5000 and >5000 to 10,000 are more in control group than the SHF groups. It shows that the control households have a good financial condition and hence good saving trend.

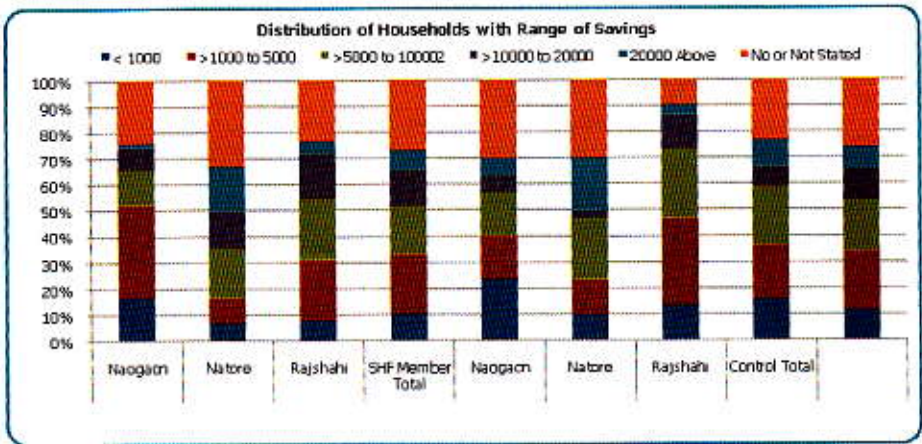


Figure 61: Distribution of Households with Range of Savings

6.5.2 DEBTS OF HOUSEHOLDS

The households across all the three districts access multiple sources for loan/debt. Of all the three districts, people of Natore have lesser options than the other two districts. While Naogaon people access all the 10 types of listed sources, people of Rajshahi access 9 out of 10 sources. The overall scenario shows that the major sources include commercial/rural banks, shopkeepers/petty traders, other sources and friends/relatives.

Table 15: Sources of Debts/ loans of Households (in %)

SHF Member / Control	SHF Member				Control				Total
Districts	Naogaon	Natore	Rajshahi	SHF Membe Totalr	Naogaon	Natore	Rajshahi	Control Total	
Friends/Relatives	17.8	0.0	20.0	12.6	3.3	0.0	20.0	7.8	11.4
Land lord	1.1	0.0	1.1	0.7	3.3	0.0	0.0	1.1	0.8
Money Lender	12.2	0.0	5.6	5.9	3.3	0.0	3.3	2.2	5.0
Shop keeper/ Petty Trade	4.4	1.1	27.8	11.1	6.7	0.0	40.0	15.6	12.2
SHG	1.1	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.3
Cooperative bank / Credit Society	4.4	0.0	5.6	3.3	3.3	0.0	6.7	3.3	3.3
Commercial/Rural banks	18.9	10.0	15.6	14.8	23.3	10.0	13.3	15.6	15.0
MFI	1.1	1.1	8.9	3.7	0.0	10.0	6.7	5.6	4.2
Other	2.2	14.4	18.9	11.9	3.3	10.0	20.0	11.1	11.7
No or Not Stated	38.9	73.3	30.0	47.4	53.3	70.0	36.7	53.3	48.9
Source: Household Primary Survey 2012-13									

CHAPTER VII

FOOD PRODUCTION, CONSUMPTION AND SECURITY STATUS

7.1 FOOD PRODUCTION

For both SHF as well as control households, average production of paddy is more in Naogaon followed by Natore and Rajshahi. Production of Maize has been reported only in Rajshahi. Wheat is not produced by any SHF households of Naogaon but by control households of all the three districts.

The overall scenario shows that control households are in better position than the SHF households and thus gives good scope for productivity improvement of the SHF households.

Table 16: Average Production of Cereals among Households Across Districts (in Ton)

SHF Member Control	Districts	Paddy	Maize	Wheat
SHF Member	Naogaon	3.1	0.0	0.0
	Natore	1.7	0.0	0.9
	Rajshahi	1.6	0.7	0.4
	SHF Member Total	2.1	0.7	0.7
Control	Naogaon	6.5	0.0	0.4
	Natore	4.0	0.0	2.3
	Rajshahi	1.8	1.1	0.4
	Control Total	3.8	1.1	1.5
Total		2.5	0.8	0.9

Source: Household Primary Survey 2012-13

Among the other agricultural crops, for both SHF and control households, highest pulse production are in Natore whereas Rajshahi reports highest production of potato. Tuber is only grown in Natore. In average production of fruits also Natore reports highest followed by other two districts.

Table 17: Average Food Production other than Cereals among Households Across Districts (in Ton)

SHF Member / Control	Districts	Pulse	Potato	Tuber	Vegetable	Fruit
SHF Member	Naogaon	0.0	0.6	0.0	0.8	0.2
	Natore	0.4	0.0	22.8	1.4	4.2
	Rajshahi	0.1	4.0	0.0	0.8	0.3
	SHF Member Total	0.3	2.3	22.8	0.9	1.2
Control	Naogaon	0.0	0.9	0.0	0.9	0.3
	Natore	0.8	0.0	266.7	0.0	4.7
	Rajshahi	0.3	6.2	0.0	0.7	0.2
	Control Total	0.8	4.3	266.7	0.7	5.0
Total		0.4	2.7	57.6	0.8	2.1

Source: Household Primary Survey 2012-13

The productivity of major crops is as given in the following table. It has been found that Naogaon has highest productivity of paddy. Among the SHF households, Natore leads in productivity of wheat, tuber and fruits while among the control households, it leads in pulse and tuber. Crops like maize, wheat, pulse and tuber are not grown in Naogaon and hence give ample scope for growing these for better food and nutritional security. Among all the three districts, households of Rajshahi grow the maximum number of crops followed by Natore and Naogaon.

Table 18: Productivity of major crops

SHF Member / Control	Districts	Paddy	Maize	Wheat	Potato	Pulse	Tuber	Vegetable	Fruit
SHF Member	Naogaon	7.6	0	0	12.0	0	0	10.2	5.6
	Natore	3.8	0	3.2	0	1.1	48.8	5.2	15.0
	Rajshahi	4.5	4.9	2.9	18.9	1.4	0	9.3	5.0
	SHF Member Total	5.3	4.9	3.1	17.7	1.1	48.8	8.8	7.3
Control	Naogaon	6.7	0	2.8	4.8	0	0	5.9	6.3
	Natore	4.4	0	3.2	0	1.2	66.7	0	2.4
	Rajshahi	2.8	5.2	3.6	17.7	1.1	0	7.5	2.6
	Control Total	4.7	5.2	3.3	14.5	1.2	66.7	6.7	2.5
Total		5.1	5.0	3.2	16.4	1.1	59.3	8.3	4.4

Source: Household Primary Survey 2012-13

7.2 FOOD CONSUMPTION

As far as food consumption as the percentage of production is concerned, highest percentage of paddy is consumed in Rajshahi followed by Natore and Naogaon. This may be due to the fact that average productivity of paddy is less in Rajshahi as compared to Naogaon. The entire fruits and maximum percentage of potato are consumed by the people of Naogaon. However, as evident from the following table, the people of Rajshahi consume more types of food items as compared to other two districts and hence might have better nutritional status.

Table 19: Consumption as percentage of production

SHF Member / Control	Districts	Paddy	Maize	Wheat	Potato	Pulse	Tuber	Vegetables	Fruits	Egg	Meat
SHF Member	Naogaon	34.4	0	0	56.5	0	0	8.2	100.0	33.7	3.9
	Natore	56.5	0	27.3	0	5.7	11.7	13.3	6.5	39.8	0
	Rajshahi	64.2	11.9	51.5	11.8	49.6	0	32.1	38.8	4.7	71.4
	SHF Member Total	47.4	11.9	32.1	17.4	9.2	11.7	24.3	24.4	31.6	5.6
Control	Naogaon	20.9	0	100.0	51.1	0	0	38.2	100.0	29.1	0.6
	Natore	36.0	0	12.9	0	6.0	0.0	0	24.9	47.1	0
	Rajshahi	51.1	9.2	51.8	7.0	24.1	0	24.0	69.4	1.4	63.6
	Control Total	31.6	9.2	17.8	10.5	6.2	0.0	29.9	36.8	29.3	5.2
Total		42.4	11.0	26.8	14.9	8.2	4.0	25.4	28.7	30.9	5.5

Source: Household Primary Survey 2012-13

7.3 FOOD SECURITY STATUS

The food consumption pattern at household level was recorded to understand the basic food consumption habits across all the three districts. In breakfast, watered rice with vegetables is the most preferred one while both lunch and dinner include rice with dal, vegetables and fish. More than 50% people do not have snacks in the afternoon and for those who take, it includes muri (puffed rice), tea and biscuits.

Table 20: Composition of Food Consumption and Practices Across Districts				
Season	Time	Naogaon	Natore	Rajsahi
Summer	Break Fast	Rice, Watered Rice, Mango, Jackfruit, Tea, Fried Rice, Chira, Potato mix	Rice/Bread, Vegetable	Rice, Watered Rice, Bread
	Lunch	Rice	Rice, Pulses, Vegetable	Rice
	Dinner	Rice	Vegetable	Rice
	Snacks	Fried Rice, Biscuit, Tea	Fried Rice, Biscuit	Biscuit, Fried Rice
Rainy	Break Fast	Rice, Watered Rice, Mango, Jackfruit, Tea, Fried Rice, Chira, Potato mix	Rice/Bread, Vegetable	Rice, Houspos, Bread
	Lunch	Rice	Rice, Vegetable, Fish	Rice
	Dinner	Rice	Rice, vegetable	Rice
	Snacks	Fried rice, Biscuit	Fried Rice, Biscuit, Tea	Biscuit, Fried Rice
Winter	Break Fast	Rice, Fried rice, Ruti, Cake, Juice, Tea	Rice, Pitha, Vegetable	Rice, Hospose, Bread
	Lunch	Rice	Rice, Pulse, Vegetables	Rice
	Dinner	Rice	Rice, Vegetables	Rice
	Snacks	Fried rice, Biscuit, Juice, Tea	Cake, Tea	Biscuit, Fried Rice, Cake

7.3.1 FOOD EXPENDITURE AND FOOD SECURITY GROUPS

The analysis of food related expenditure by different food security groups shows control households spend more than the SHF households in all categories except '9-12 months food available' category. And hence it implies that the control households have either better nutritional status or consuming the costlier foods than the SHF households.

Table 21: Average Food Expenditure of Households under Different Food Security Groups (in Local Currency)

SHF Member / Control	Districts	Year round food available	9-12 months food available	6-9 months food available	3-6 months food available	0-3 months food available	All Group
SHF Member	Naogaon	28429	20927	37872	30450	12727	27034
	Natore	0	32971	32560	18517	27000	32284
	Rajshahi	30581	43369	37494	30190	52667	39105
	SHF Member Total	29788	32922	36367	29228	26215	32808
Control	Naogaon	68000	33500	24175	27138	33375	33251
	Natore	180000	42089	31180	21667	20970	40737
	Rajshahi	29724	58216	38250	52100	34790	45703
	Control Total	54927	44714	31204	32011	30628	39832
Total		37868	35507	35599	30005	28830	34549
Source: Household Primary Survey 2012-13							

CHAPTER VIII

KEY FINDINGS

Some of the key overall findings are as below

- More Ethnic and female headed households are under very poor category.
- Illiteracy is more in females.
- None of the Ethnic households have food available for round the year.
- Overall malnutrition is more in Ethnic HHs as well as HHs categorized under very poor.
- More Ethnic HHs do not have electric connection.
- None of the households engaged in wage labour (both skilled & unskilled) and organized farming have food available for round the year.
- More cases of malnutrition, anemia, under nutrition and stunting like problems in women and children are found in Adivasis and also in very poor households as well as households with skilled wage labour as primary occupation.
- More Ethnic and female headed households do not have electricity connection.
- Landlessness is prevalent in Ethnic households.

Table 22: Key Findings

Parameters	Naogaon	Natore	Rajshahi	SHF Vs. Control	Bangladesh
Distribution of different socio-economic category	• Around 58% are poor and very poor	• Around 45% are either poor or very poor	• Highest percentage of poor and very poor (>75%)	• Among SHF, Rajshahi has more very poor while in control group, Naogaon has more very poor	• Around 60% are under poor and very poor
Social category	• Highest percentage of Ethnic	• No SHF Adivasis	• 14.4% of Ethnic households	• SHF group has more Ethnic than the control	• 17.2% are Ethnic
Literacy	• Highest percentage of illiterates (50% and above)	• 33.3% are illiterate	• 44.4% are illiterate	• More illiterates are in SHF group	• 44.2% are illiterates
Sex ratio	• More females than 1000 males in all the three categories	• Poor in '>18' category	• Poor in all categories and very poor in <18 category	• Sex ratio of control HHs are better than the SHF ones	• Poor in all the three categories
Food security at HH level	• Highest percentage of HH with food available for 0-3 months	• No HH has food available round the year	• 13.3% have food available for more round the year	• More control HHs have round the year food available than SHFs	• More HHs with round the year food availability in control than the SHFs
Nutritional status	• Highest percentage child malnutrition/ stunting	• Highest households with under nutrition and anaemia only in women	•	• More percentage of control HHs are with no malnutrition than the SHFs	• Around 90% have nutrition related problems either in women or children or both

Table 22: Key Findings

House types	• Mostly mud & clay	• Mostly brick/ stone or mixed	• Mostly mud & clay type	• More HHs with brick/ stone or mixed than the control HHs	• More than 50% have mud & clay types
House roof types	• More than 50% have grass/ straw	• Mostly GI sheets	• Mostly GI sheets	• More percentage of control	• Mostly GI sheets
Household floor types	• Mostly (94.4%) with mud or clay	• Around 53.3% with mud & clay	• Around 51.7% with mud & clay • Highest HHs with concrete/ marble	• More control HHs with concrete/ marble and tiled floor	• Mostly (65.4%) with mud & clay
No. of rooms to live	• 14.4% have single room and 56.7% have double rooms	• 14.4% have single rooms • Highest HHs with more than 5 rooms	• 11.1% HHs have single rooms	• More percentage of control HHs have single rooms	• 15.8% have single room
Electricity	• 97.8% do not have connection		• 21.1% do not have connection		• 41.9% do not have connection
Sanitation	• One-third goes for open defecation	• No open defecation	• 4.4% only go for open defecation		• 12.2% go for open defecation
Land holding	• 13.3% do not have cultivable land	• 2.2% do not have cultivable land	• 6.7% do not have cultivable land	• Landlessness is more among control than the SHF HHs	• 13.1% do not have cultivable land
Irrigated land	• 77.7% land is rain fed	• 100% rain fed	• 73.8% land is rain fed	• Percentage of land under Irrigation are more in control group	• More than 80% are rain fed
Cropping scenario	• No maize, wheat, pulse and tuber	• No maize and potato	• No tuber		• Areas under maize, potato, tuber and fruits are very less
HH level livestock	• Highest per HH cows, sheep and pig	• No sheep	• Highest HHs with bullocks, goats, poultry but no pig		• Per HH sheep and pig is very less
Source of income	• Mostly from agri. and livestock	• Mostly from agri. and business	• Mostly from agri. and livestock		• Mostly from agri. and livestock

ANNEXURE-I

EC Project Number DCI-FOOD/2010/230-309

South Asia Coordination Unit; CARITAS, India
BASELINE FORMATS: HOUSEHOLD SURVEY

STATUS OF THE INTERVIEW		
COMPLETED 1 PARTIALLY COMPLETED 2 REFUSED 3 OTHER (SPECIFY) 9	<input style="width: 30px; height: 20px;" type="checkbox"/>	
INTERVIEWED BY THE VILLAGE RESEARCH ASSISTANT / DPO	CHECKED BY DISTRICT PROJECT OFFICER	VALIDATED BY RESEARCH OFFICER

HOUSEHOLD LEVEL QUESTIONNAIRE

HH Code ¹	Village	SHFC	Farmer No
	___ _ _	SF ___ (1,2,3)	___ (1, 2, 3,4)
Economic Status (As per Wealth Rank – PRA)			
Date of Interview			
Name of the interviewee			
Relationship with Head of the Household			

1.	Name of the Hamlet & Village	Hamlet	Village /Mouza
2.	Name of Gram Panchayat/Union/VDC		
3.	Name of the Block/Sub-district		
4.	Name of the District		
5.	Name of the Head of Household		
6.	Father's Name		
7.	Sex (Male/Female)		
8.	Marital Status	Code	
9.	Caste	Code	
10.	Literacy	Code	
11.	Land ownership	Code	

¹ Village Code as per project village list (1st 3 letters of the Village name)

EC Project Number DCI-FOOD/2010/230-309

South Asia Coordination Unit; CARITAS, India

BASELINE FORMATS: HOUSEHOLD SURVEY**12. General Information about Sample Households ' Use Code**

Family size (Nos.)				No of School going Children		No of College going youth		Primary Occupation	Food Security	Nutritional Status (measure & collect info from)
Male (> 18)	Female (> 18)	Boy (up to 18)	Girl (up to 18)	Boy (<18)	Girl (< 18)	Boy	Girl	Code	Code	Code

13. Household facilities {Observe & Record} ' Use Code

Type of House (Code)					Electricity	Fuel Used	Drinking Water	Sanitation
Wall	Roof	Floor	No of Storeys	No of Rooms	Code	Code	Code	Code

14. Household Assets (Observe, Query & Record) ' Use Code

Own			On Rent (usually)		
Household Items	Vehicles	Agriculture Implements	Household Items	Vehicles	Agriculture Implements
Code	Code	Code	Code	Code	Code

15. Livestock Assets {Observe, Query & Record}

	Breed Name	Numbers	Breed Name	Numbers	Breed Name	Numbers
Cow						
Bullock						
Buffaloes						
Goat						
Sheep						
Poultry						
Pig						
Other						

EC Project Number DCI-FOOD/2010/230-309

South Asia Coordination Unit; CARITAS, India

BASELINE FORMATS: HOUSEHOLD SURVEY

16. Livestock Inputs {Observe, Query & Record} ' Use Code

	Inputs	Practice of Grazing	Other Inputs			
Cow						
Bullock						
Buffaloes						
Goat						
Sheep						
Poultry						
Pig						
Other						

17. Land Assets (in Ha, If other unit mention Unit :

Conversion Rate :)

Home stead land	Land Owned and self ploughed					Rent/leased in (as on date)				Rent/leased out (as on date)			
	Cultivated land		Orchard		Fallow	Cultivated land		Orchard		Cultivated land		Orchard	
	Irrigati on	Rain fed	Irrigati on	Rain fed		Irrigati on	Rain fed	Irrigati on	Rain fed	Irrigati on	Rain fed	Irrigati on	Rain fed

18. Savings and Debts (Add Columns as required) ' Use Code

Name of SHG / Bank/ MFI/ Cooperative/ Savings/Credit Group Institution	No of family members who are member of SHG / Bank/ MFI/ Cooperative/ Savings/Credit Group Institution	No of Bank/MFI Accounts with Household	Total savings in passbook (Rs)	Total savings at home -	Total Debt	Source debt
				Code	Code	Code

19. Sources of Income (Local Currency; last year)

a) Wage labour & other income

No of Person Days/ year		Daily Wage Rate		Other Income/ year	Business		Service	
Male	Female	Male	Female	(Stitching, honorarium etc.)	Income per day	No of days/ year	Salary per month	No of months last year

b) Livestock

Livestock Products	Units	No of days	Quantity	Rate (Local Currency)	Amount
Milk sold	Litres per day				
Egg sold	Nos. per day				
Chicken	No or Kg per year				
Goat	No or Kg per year				
Sheep	No or Kg per year				
Pig	No or Kg per year				
Cow/ Calf	No or Kg per year				
Buffaloes	No or Kg per year				

20. Food Production, Consumption and Income (Add additional rows as per crops) ' Use Code

Food	Varieties	Source (Can be more than one)	Area	Production	Consumed	Sold	Income from Sale	Lending	Preserved for seed
	(Code-Number) : Names	(Code)	Unit	Unit:	Unit :	Unit:	Local Currency	Unit	Unit
Paddy									
Maize									
Wheat									
Jowar									
Millet (Specify)									
Millet (Specify)									
Potato									
Pulse (Specify)									
Tubers									
Vegetables									

EC Project Number DCI-FOOD/2010/230-309

South Asia Coordination Unit; CARITAS, India

BASELINE FORMATS: HOUSEHOLD SURVEY

Fruits									
Animal Products									
Milk									
Egg									
Meat									
Forest Products									

21. Food Purchased/Exchanged/borrowed (add more row if required)

Food	Purchased			Exchanged			Borrowed/ Lending		
	Quantity Unit :	Price	Source	Quantity Unit :	Rate for other products	Source	Quantity Unit :	Interest Rate	Source

22. Expenditure Pattern (Rs; average or last year)

Food	Cloth	Education	Health & Sanitation	Savings	Other

23. Investment under agriculture (In local currency, for last year)

Crop	Fertilizer	Pesticide	Seed	Manures/ Bio-fertilizers	Others

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BASELINE FORMATS: HOUSEHOLD SURVEY

24. Investment under livestock (In local currency, for last year)

Livestock	Feed/ Concentrate	Fodder	Nutrient Supplement	Vaccine	Medicine	Others

25. Food Production Practices ' Use Code

Cropping Practices	Yes/ No	Crops	Practice (Code)	Area (Unit)
Integrated Pest Management				
Integrated Nutrient Management				
Integrated Water Management				
Organic Farming				
Agro forestry				
Integrated Farming				
Crop Rotation				
Intercropping				
Mixed Cropping				
Relay Cropping				
Advanced/ Delay sowing				
Harvesting - Manual				
Harvesting - Mechanical				
Harvesting-Individual				
Harvesting- Collective				
Others				

26. Food Storage & Sharing for the food crops which are consumed most (required to be also recorded qualitatively to better capture the process) ' Use Code

Crops	Food Storage					Institutional arrangement		
	Custody	Infrastructure/ Material	Technology (list all codes)	Annual Storage amount (qt)	Average storage duration (in months)	Contribution norms	Distribution Norms	Institutionaliza tion

BASELINE FORMATS: HOUSEHOLD SURVEY

Season		Breakfast	Lunch	Dinner	Snacks
Summer	Food				
	Crops/ Animal Products				
	Varieties/ Breed				
Rain	Food				
	Crops/ Animal Products				
	Varieties/ Breed				
Winter	Food				
	Crops/ Animal Products				
	Varieties/ Breed				

[illegible]

EC Project Number DCI-FOOD/2010/230-309**South Asia Coordination Unit; CARITAS, India****BASELINE FORMATS: HOUSEHOLD SURVEY****29. Issues/vulnerability of food production systems 'Use Code**

Food	Food Production				Food Storage	Food Processing
Plant/Animal/ Fish product	Production	Nutritional quality of product	Pest/ Disease incidence	Key Issue/ Reasons	Key Issue	Key Issue
	Code	Code	Code			

REFERENCE NOTES		
Household	Definition of a household: a group of people who share a kitchen on a daily basis	
SAMPLING of Target HH	20% of each SHFC/Village; 50% of the sample must consists of women headed households (subject to availability) Example: 15 members per SHFC; 20% is 3 HH; If there are 3 SHFC in a Village, about 9-10 HH accordingly. These sample should be distributed across wealth class among the SHF	
Sampling of Control	20% of the Sample of Target	
Small Holder Farmers (SHF)	< 2 ha of rainfed land As far as possible, farmers' with smaller holdings will be preferred (Groups of landless families could also be preferred)	
SHFC	3 SHF collectives/ Village will be formed/revived/selected on the basis of similarity of their land ownership (area and location in topo-sequence) and types of crop they grow; If SHFC have not been Identified before Baseline Survey, sample households are to be selected keeping these factors in mind. Sample should be covering all potential SHFC and must be able to represent the diversity among them.	
Rainfed Areas		Applicable to
	No assured Irrigation	All countries
	Not in declared Command areas	Only in India
	As per land record	Only in India
	No Govt supported canal systems	All countries
Question Which is not applicable (NA)	Put '0'	
Question where the interview refused to answer	"R"	

KEYS to Sl. No 8,9,10 and 11

Caste	Code	Literacy	Code	Economic Status (Ration Card) of Household	Code	Land Ownership of Household	Code	Marital Status	Code
ST/Adibasi/Jatitil	1	Illiterate	1	(Btashed/GM/Ultra poor)	1	No Cultivable land	1	Married	1
SC/Dalit	2	up to 9th	2	(Very Poor)	2	Up to 0.25 ha	2	Unmarried	2
OBC/ Bangali	3	10th pass	3	(BPL/Poor)	3	0.26-0.5 ha	3	Widow	3
OC	4	12th pass	4	(API)	4	0.51-1 ha	4	Divorced	4
		Any other (specify)	5	Any other status (specify)	5	1.1-2 ha	5	Separated	5

KEYS to Sl. No 12 General Information about Sample Households

Primary Occupation of Head of the household	Code	Food Security of Household	Code	Nutritional Status of the Family	Code
Wage labour – unskilled / Agri.	1	From own production, for last 5 years		No malnutrition in the family	1
Wage labour – Skilled	2	Year round food available	1	Under nutrition and Anaemia only in Women	2
Subsistence Farming	3	9-12 months food available	2	Child malnutrition/ stunting	3
Organized farmer (mechanical farming)	4	6-9 months food available	3	Malnutrition death in the Family	4
Animal Husbandry/ Fishery	5	3-6 months food available	4	Two of above 3 (2,3 and 4)	5
Service	6	0-3 months food available	5	All three	6
Business (specify)	7				
Entitlements (cash/subsidy)	8				
Others (Specify)	9				

KEYS to Sl. No 13 Household facilities

Wall Type	Code	Roof Type	Code	Electricity	Code	Fuel used	Code
Mud & clay	1	RCC/ Cement	1	Regular Supply	1	Fuel wood	1
Brick or stone	2	GI sheet/ asbestos	2	Irregular/ Poor supply	2	Leaves etc.	2
Mixed (brick & mud)	3	Tiled	3	No connection	3	Crop/animal residue	3
Other (specify)	4	Grass/Straw & bamboo	4	Drinking Water	Code	Kerosene	4
Sanitation	Code	Other (specify)	5	Piped water in residence/yard/plot	1	Bingax	5
Open defecation	1	Floor Type	Code	Public tap	2	LPG	6
On pit	2	Concrete/ marble	1	Hand pump in residence/yard/plot	3	Electric heater	7
Off-pit	3	Tiled	2	Well water in residence/yard/plot	4	Others (specify)	8
Other (Specify)	4	Mud or clay	3	Public Hand pump	5		
		Other (specify)	4	Public well	6		
				River	7		
				Other sources (specify)	8		

KEYS to Sl. No 14 Household Assets

Household Items	Code	Vehicle	Code	Agriculture Implements	Code
Bed (Palank/Khata/Khania)	1	Cycle	1	Country Plough	1
Television (T.V.)	2	Moped/Scooter	2	Improved Plough	2
Stereo/ Deck	3	Motor Cycle	3	Manual	3
				Weeder/Winnower etc.	
Stove (LPG/ kerosene)	4	Car/jeep etc	4	Mechanical device	4
Other (specify)	5			Motor pumps	5
				Power tiller/Tractor	6
				Others (specify)	7

KEYS to Sl. No 16 Livestock Inputs

Feed	Code	Practice	Code	Other Inputs	Code
Local feed/fodder	1	Open Grazing	1	Artificial Insemination (Cattle)	1
Food Concentrate	2	Stall feeding	2	Insurance	2
Nutritional supplement	3			Govt Subsidy	3
Oil cake	4			Vaccination	4
Purchased fodder	5			Others (specify)	5
Any other (specify)	6				

KEYS to Sl. No 18 Savings and Debts

Source of Debt	Code	Source of Debt	Code	Amount of Savings at home / Debt (local currency)	de Co
Friends/Relatives	1	SHG	5	0- 1000	1
Land lord	2	Cooperative bank / Credit Society	6	1001-5000	2
Money Lender	3	Commercial/Rural banks	7	5001-10,000	3
Shop keeper/ Petty Trader	4	MFI	8	>10,000	4
		Other (specify)	9		

Details on loan taken in the past 2-3 years and the purpose could be added

Source	Code	Source	Code	Source	de Co
Own land	1	Village commons (Specify)	4	Rainfed	7
Rent in / sharecropping	2	Grain bank	5	Irrigated	8
Backyards	3	Forest	6	Others (specify)	9

KEYS to Sl. No 20 Food Production, Consumption and Income

Varieties	Code
Indigenous/ Traditional	1
Improved	2
HYV	3
Hybrid	4

KEYS to Sl. No 25 Food Production Practices

Nutrient Management	Code	Pest Management	Code	Code	Farming system components	Code
Use of FYM	1	Biological (botanical and animal)	1	1	Crops	1
Compost & Vermicompost	2	Mechanical	2	2	Livestock- Animal	2
Green Manuring	3	Chemical	3	3	Trees - forest	3
Biodynamic Inputs (cow urine, horns etc.)	4	Integrated	4	4	Horticulture	4
Oil cakes	5	Others (specify)		5	Grasses/Fodder	5
Poultry waste	6				Fisheries	6
Bio-fertilizers	7				Others (honey bee, mushroom, azolla etc.)	7
Chemical	8					8
Others	9				Others	9

KEYS to Sl. No 26 Food Storage & Sharing for the food crop which is consumed most

Category	Code	Infrastructure/ Material	Code	Technology	Code
At home	1	Straw/grass	1	Drying	1
Grain bank/ Community storage	2	Wood /timber	2	Cleaning	2
Others (Specify)	3	Kirtk/stucco	3	Grading	3
		Masonry	4	Minor processing	4
		Others (specify)	5	Insect/pest control during storage	5
				Others (specify)	6
Contribution norms	Code	Distribution Norms	Code	Institutionalization	Code
Periodical	1	In proportion to contribution	1	Formal	1
One time in a year	2	As per need (equity)	2	Membership defined	2
Quality control	3	As per terms of repayment (economic)	3	Leadership norms established	3
			4	System of fines/ deterrent	4
			5	System of conflict resolution	5

KEYS to Sl. No 28 Processing of local Food items

Cleaning/Drying	Code	Storage	Code	Pre Consumption	Code
Manual winnowing/cleaning	1	Gunny bag/Plastic bag	1	Manual dehulling/ deskinning	1
Mechanical winnowing/cleaning	2	Open Stacking	2	Mechanical dehulling/ deskinning	2
Sun-Drying	3	Under ground	3	Manual grinding/powdering	3
Smoke-drying	4	Storing in shed	4	Mechanical grinding/powdering	4
Shade drying	5	Cold Storage	5	Sun drying (fish/animal/vegetable)	5
Others (Specify)	6	Storage in straw/grass moulds	6	Smoking (meat/fish/vegetable)	6
		Storage in metal containers	7	Fermentation	7
		Storage in Earthen container	8	Pickle /Chutney	8
		Storage in wood/bamboo container	9	Others (specify)	9

KEYS to Sl. No 28 Processing of local Food and Seed items

Seed Storage	Code	Seed Processing	Code
Storage in straw/grass moulds	1	Drying prior to storage	1
Storage in metal containers	2	Cleaning prior to storage	2
Storage in Earthen container	3	Addition of organic pest repellent during storage	3
Storage in wood/bamboo container	4	Addition of chemical pest repellent during storage	4
Storage in other (specify) containers	5	Pre-sowing cleaning	5
Underground storage	6	Pre-sowing size/quality segregation	6
Storage in shade	7	Pre-sowing treatment (specify)	7
	8	Other processing (specify)	8

KEYS to Sl. No 29 Issues/vulnerability of food production systems

Production	Code	Nutritional Quality	Code	Pest / Disease incidence	Code
Increasing	1	Improved	1	Increased	1
Decreasing	2	Deteriorated	2	Decreased	2
Normal	3	Same	3	Same	3
Wide Fluctuation	4		4	New pest/disease reported	4
Less Fluctuation	5		5		5
Others (specify)	6		6		6



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